

# THE MEDICAL JOURNAL OF AUSTRALIA

VOL. I.—30TH YEAR.

SYDNEY, SATURDAY, FEBRUARY 13, 1943.

No. 7.

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### THE TREATMENT OF LARGE SOFT TISSUE INJURIES BY EXCISION AND PRIMARY SUTURE.

By W. A. HAILES,  
Melbourne.

THE treatment of soft tissue injuries with or without fracture of the supporting bones has assumed a prominence in surgical work out of all proportion to its place in peace-time surgery, important though that may be. The organization of the Emergency Medical Service extends to surgeons, the scope of whose activity in peace time does not include traumatic surgery.

For a correct appreciation of this problem it is essential that some reference should be made to the history of the treatment of soft tissue injuries, especially with regard to excision and primary and delayed primary suture. It is also important that all who may have occasion to treat such wounds should understand clearly what is meant by (a) the "closed" treatment of wounds and (b) excision and primary suture. It may be thought that this is elementary and unnecessary. I know without any doubt that this is not so—that the terms are regarded by some as synonymous. The two methods of treatment differ so much in principle that they bear no comparison one with the other. In the Middle East the wounded from Libya, Tobruk and Syria were evacuated with the wounds treated by the "closed" method, but not by primary suture.

I have no wish to enter into a discussion as to whether Trueta did nothing more than popularize Winnett Orr's treatment or commenced a new line of treatment. I do emphasize that Trueta said in no uncertain words what he meant by the "closed" treatment of wounds. This is that the wound was thoroughly excised and the part enclosed in plaster of Paris. Suture has no place in the "closed" treatment of wounds as described by Trueta, who, in an account of his work in Barcelona, states that "in

very few cases was the skin sutured, the area was then enclosed in plaster".<sup>(1)</sup> Again, he states that "in this my criterion is absolutely definite, if suturing would produce the very slightest tension in the soft tissues the wound must be left open". My only comment is that the tension will be evident next day from the inevitable reaction of the tissues to trauma, if not to infection; this is apparent in the illustration in the article by Forbes Fraser on primary and delayed primary suture.<sup>(2)</sup>

There can be no misunderstanding about the words "excision and primary suture"; they mean what they imply. This treatment has no essential part in the "closed" treatment of wounds, though by some it may be used in association with enclosure of the part in plaster of Paris.

The French were the first to advise excision of wounds, and employed this method in 1915-1916. Primary suture followed. The British Army appointed a small committee in the winter of 1917-1918 to investigate the problem. The findings were recorded by Captain (later Major) Forbes Fraser in *The British Journal of Surgery* in 1919. In this article Fraser emphasizes the fact that in the circumstances which he specifies, provided that the patient need not be moved for several days at least, then primary suture is justified; he states also that casualties with sutured wounds transferred to the base in the early stages almost invariably went wrong. Again, in the concluding paragraph, Fraser states that though primary suture, with a proper selection of cases and efficient operation, may be counted on to meet with a large measure of success, and while immediate suture is the operation of choice for certain classes of wounds, such as those of the head, chest and joints, he inclines to the belief that delayed suture is safer and more certain in its results. He holds that during periods of active fighting, when casualties cannot be retained for at least several days after operation, delayed suture is the only means of early closure at our disposal.

In the latter period of 1918 it was my good fortune to be associated with this delightful personality and charming and courteous gentleman. I was indebted to him for much



assistance and advice. It was a busy period with many casualties. The enemy were being driven back from the Mont St. Quentin area, and in the casualty clearing station of which he was surgeon specialist there was no primary suture and very little delayed primary suture of large soft tissue injuries. It would seem that from the very inception those who investigated this problem for the British Army realized that it was axiomatic that if wounds were sutured the patient must be held; it follows then that the surgeon assumes undivided responsibility. I shall add that it is only then that he will learn the results of his actions.

I remind readers that the line of communication was then short and relatively easy.

I maintain most emphatically that there is no place for excision of wounds and primary suture in war, except in the case of wounds of the head, chest, abdomen, and possibly joints. I emphasize that it would be incomplete to discuss this subject and not indicate that the practice of submitting men with large soft tissue injuries to treatment by excision and primary suture and then dispatching the patient on a line of communication so long and difficult that it might almost be described as "into the blue", cannot be too strongly condemned. This should be prohibited, as indeed it is in the Australian army.

I cordially agree with those who approve of the treatment of large soft tissue injuries with or without fractures by the "closed" method. In no other way could the casualties from Tobruk and Libya have been evacuated. But I must emphatically oppose excision and primary suture for the treatment of these wounds, whether they are subsequently enclosed in plaster or not. The hospitals in the Middle East treated casualties from Libya, the fortress of Tobruk and Syria. This was a fairly wide experience; evacuation presented a different problem in each area cited.

Libya and Tobruk presented quite dissimilar problems. In one there was a long time-lag before the casualties were treated by surgical teams in advanced operating units; in the other there was a short time lag before the casualties were treated by an efficient staff at a well-equipped general hospital, and at Tobruk the casualties were from a beleaguered garrison within a small perimeter, not from a mobile battle with a long time-lag before the first treatment. In Libya and Tobruk there were difficult lines of evacuation. In Syria the line of evacuation was relatively easy. Those of us who were in the Middle East also had knowledge of the experiences gained by those who were treating the casualties from the Eastern Mediterranean Fleet—a fair range in all from which to draw our conclusions. These surgeons have definite opinions on this problem.

In the treatment of large soft tissue wounds in war, I maintain that the excision and primary suture method is an impractical academic ideal, which does not work often enough to make it worth while; I maintain further that when it does not work it is associated with grave risk to life and limb. Now, the only worth-while test in a hard and practical calling, such as surgery, is this—does the procedure work or does it not? As far as most surgeons in the Australian Imperial Force are concerned, that question is answered in the negative. What other tests can be applied? I consider that there were in the Australian Imperial Force in the Middle East, and that there are still in the Australian Imperial Force and the Australian Military Forces, well-trained, competent surgeons, who had a reasonable experience in the treatment of battle casualties. From this experience we know and maintain that the method of excision and primary suture has no place in the treatment of casualties sustained in an army at war, except in the anatomical areas specified. In the Australian army the treatment by excision and primary suture of soft tissue injuries with or without an accompanying fracture is covered by a printed instruction prohibiting that practice.

Following the excision of a wound, surgeons have been heard to say: "I will take the risk and close this fracture"; the same attitude may be adopted towards a wound unaccompanied by a fracture. The presence of a fracture

increases the severity of the injury and complicates treatment; it does not affect the principle involved.

In a denunciation of this attitude of some surgeons, MacIure made the following apt and pertinent comment:

Let him be reminded that he takes no risk—he forces that on a patient ignorant of the pros and cons, but who would prefer not to be made the subject of what appears to be a gamble as judged by the standards of sound surgical principles.<sup>(9)</sup>

It may well be asked why, if excision and primary suture are advised as applicable to wounds in some regions, they are prohibited in others. The answer is simply that the thoracic wound will heal very often if it is left alone and not even excised, that the wound of the head will heal satisfactorily if it is excised and sutured over a drain as late as seventy-two hours and longer after the injury. Abdominal wounds heal more or less satisfactorily if the patient survives, though in many instances not by first intention; these wounds must be closed to retain the contents of the cavity, otherwise there would be fewer survivors still.

In the Australian Imperial Force very few of the thoracic wounds were excised. If the pleura was open and the cavity sucking it was closed at the earliest opportunity by sutures and without excision; gross infection of the thoracic wall was uncommon and empyemata were rare.

Experience has taught that some procedures work and that others do not. This bears out what has been emphasized so often in the training of a surgeon, the value of an apprenticeship.

We all sincerely hope that war will not come to Australia; but if it does, those who are responsible for the training of students and recent graduates and for making provision for civilian casualties, will reap much better rewards by concentrating on first principles. In a welter of battle and air-raid casualties, treatment by excision and primary suture cannot be regarded as a first principle.

To me and to many others with whom I am now associated, excision and primary suture are not in accordance with those principles, and their carrying-out is fraught with grave danger to life and limb. This article was written to emphasize to juniors this viewpoint, one which it is considered presents the problem in reasonable perspective in view of the known facts, one which will lead them along the straight and narrow path.

There is no claim that this article contains anything new; it is only a protest against the discarding of a first principle, a protest against a current conception—namely, that it is possible to sterilize a large soft tissue injury by excision of the wound and the application of a chemical compound supplemented by the administration of drugs by mouth. The problem is clear-cut; that is the only major issue involved. I again emphasize that the conception is an academic ideal, that in practice it does not work in a sufficiently high percentage of cases to be worth while, and that failure to achieve the ideal is associated with grave risk.

The side issues involved are relatively unimportant. It is useless to advocate a procedure which only an infinitesimal proportion, if any, of otherwise competent surgeons can practise with success.

The risks involved depend on many factors; the two most important are (a) the time-lag between injury and operation and (b) the completeness of the excision. Even if the time-lag was negligible (half an hour), he would indeed be an optimist who maintained that he had completely excised all soiled tissue and that during excision the raw surface had not been reinfected. Every surgeon knows that damaged and divided muscle fibres have a bruised appearance and retract within their fascial compartments. It is that bruised appearance that facilitates the recognition of damaged areas; the fibrous coverings are comparatively avascular and not bruised to the same degree; the retracted muscle fibres may well have soiled



the fibrous sheaths above the level where the sheath is opened or divided. This soiling is difficult to detect. Problems such as this render complete excision impracticable. Because of important structures, excision *en bloc* is impossible.

The more massive the area of the body injured and the denser the ensheathing fascia, the graver the consequences if suture is attempted and infection supervenes. In the deep areas of the thigh, pus can track up and down the fascial planes before it appears subcutaneously beneath the offending sutures; the consequences are tragic. In some areas the fascial planes and fractured surfaces are closer to the subcutaneous areas, and infection is more easily detected.

I have previously indicated that the surgeon who operates on a patient with a gunshot wound of the thigh associated with a fracture of the femur carries that man's life in his hands; if he wishes to throw some of those lives away, he can employ excision and primary suture. I have instanced the thigh because of the mass of tissue involved, the centrally placed bone and the strong ensheathing fascia. The same applies in more limited degree to all parts of the extremities. The susceptibility of buttock wounds to the spread of infection has long been recognized.

It is possible that in the future chemotherapy may add further to the armamentarium of the surgeon. With a full realization of the benefits derived from the use of drugs of the sulphonamide group, I maintain that we have not yet at our disposal a drug that will measure up to requirements—that is, one that will render innocuous any organisms that have been left behind in the excision of a soft tissue wound with or without an associated fracture. Much has been achieved, more is forecast, but the drugs at present available are inadequate to ensure safety. In view of the fact that the wound cannot be sterilized and that the risk to life and limb is very great if the procedure is attempted, I repeat that there is no place, except in the areas specifically mentioned, for excision and primary suture in an army at war; to attempt to use the method is to court disaster.

Certain first principles stand out in war surgery. First of these is the fact that no casualty will be submitted to surgical treatment till the necessary resuscitative measures have been carried out. Second in importance is the fact that wounds of soft tissue will be excised and left open. Approximately 70% of all recovered battle casualties have had wounds of the extremities—that is, soft tissue injuries with or without a fracture. This emphasizes the importance of correct treatment for what, after all, is an overwhelming percentage of those wounded who have a reasonable chance of recovery.

I make no apology for discussing this problem or for reiterating my opinions, even to the extent of being repeatedly assertive. This is a problem about which, in my opinion and that of many of my colleagues, there is no compromise. I have no quarrel with the "closed" method for early treatment and evacuation; it is indeed invaluable. I do consider, however, that in many cases, from the point of view of end results, if the "closed" method is persisted with, the exponents of plastic surgery have an easy case to state in comparison. A wound in a closed plaster cast heals with a maximum formation of scar tissue and subsequent contracture which may occasion disability, deformity and ulceration of the scar. By the use of modern methods of skin grafting, the plastic surgeon aims at and achieves healing with a sound scar and a minimum of contraction and disability.

#### References.

- (1) J. Trueta: "Closed Treatment of War Fractures", *The Lancet*, Volume I, June 24, 1939, page 1452.
- (2) P. Fraser: "Primary and Delayed Primary Suture of Gunshot Wounds", *The British Journal of Surgery*, Volume VI, 1918-1919, page 92.
- (3) F. MacLure: "Compound Fracture of the Leg", *The Australian and New Zealand Journal of Surgery*, Volume X, April, 1941, page 354.

#### THE REGIMENTAL MEDICAL OFFICER.

By P. BRAITHWAITE,  
Captain, Australian Army Medical Corps,  
Australia.

THE following notes apply to the regimental medical officer of an infantry battalion. The general principles will apply to all regimental medical officers; the details may be altered according to circumstances as war establishment and common sense dictate.

The regimental medical officer is a medical officer. This is not the same as a doctor. He is an officer who has a definite job to do in a battalion, and to carry out his duties properly a certain amount of medical knowledge is necessary. His job is to keep the unit fit and up to strength and to get the maximum amount of efficient work out of every man. This does not mean that he should drive men who are sick, though the management of any case should be considered before treatment is instituted. He treats minor disorders; but his function is not the healing of the sick. The sick are evacuated to be treated by the doctors further back.

In order to carry out his duties efficiently a regimental medical officer must forget most of his ideals and much of his ethics. All his previous training teaches him to ask himself "what is the best that can be done for this man?" and to do it. In a theatre of operations, however, he must ask: "Can this man fire a rifle? Can he march?"; and he must modify his treatment accordingly. By far the greatest source of wastage from a unit is the result of preventable diseases. The most important aspect of a regimental medical officer's work, therefore, is to maintain at all times a high standard of hygiene and sanitation.

#### RELATIONS WITH OFFICERS AND MEN.

##### The Commanding Officer.

The regimental medical officer must be a friend, and a real friend, of the commanding officer. If there is bickering, lack of cooperation or lack of mutual confidence between them, the regimental medical officer would be better transferred to another unit. His commanding officer should have so much trust in him that he gives him a free hand to issue what orders he considers necessary. Little is accomplished by the old system of reports. The way to have things done is to issue orders on the spot and then "check up".

##### The Officers.

The regimental medical officer must be a good "mixer", on good terms with all the officers of his unit. He must have their confidence and respect. They will come to him with their problems in medical and non-medical matters. An occasional remark about foot inspections and such matters over a glass of beer can do much towards keeping company commanders "up to scratch". This must only be occasional; the regimental medical officer must avoid preaching. He will absorb the *esprit de corps* of his unit, and he will find that if he stays there long enough he will know more about an infantry battalion than he does about medicine.

##### The Quartermaster.

According to his relations with the quartermaster, the regimental medical officer's job can be easy or extremely difficult, especially in a theatre of operations. The supply of medical comforts, alterations in meals, the supply of clothing and extras for the men, quite often depend on the quartermaster's friendship. Next to the commanding officer, the quartermaster is the most important in the unit to cultivate.

##### Outside Officers.

The regimental medical officer is the most forward link of the medical services. He can see and appreciate the situation. He must get what he wants in supplies and service from the field ambulance commander. He must

study him, cultivate his friendship, and be able to talk him round to his own way of thinking.

The regimental medical officer must be on familiar terms with the brigade staff. As a member of another service and a doctor who does not know any better, he can sometimes have things done for his unit that the commanding officer is unable to accomplish as junior to senior through the official channels.

The deputy assistant quartermaster general is another useful man to know. His services are seldom needed, but occasionally it can be useful to have him for a friend.

The assistant director of medical services is the officer to whom the regimental medical officer is directly responsible. Relations should not be confined to the official weekly reports. Occasional visits, besides being a courtesy, will keep the regimental medical officer in touch with the medical condition of the division as compared with that of his own battalion. The assistant director of medical services will also be helpful in speeding up some difficult "Q" matters.

#### The Men.

The regimental medical officer will meet all the understraps on the morning sick parade. They will soon be classified. During his inspections he must also get to know all the non-commissioned officers. He must know every section corporal, and whether he is strong or weak. The strength of the battalion in action, as regards both hygiene and sanitation and morale, depends on the section leaders. The regimental medical officer must therefore know on whom he can depend, and on whom it will be necessary to "check up" frequently. If his relations with the commanding officer and his brother officers are all they should be, he should be in a position to advise the replacement of the weak section leaders; but he must first be sure of his grounds and of his standing. Another aspect of the regimental medical officer's relations with the men is concerned with the making and keeping fit of the unit. He should encourage sporting activities within the battalion, and if possible, join in games of football himself. The company that shines in sport does well in action. He should not forget to take his stretcher bearers for a swim whenever possible.

#### HYGIENE AND SANITATION.

Hygiene and sanitation are the most important part of the regimental medical officer's work. Proficiency in this department will do more than anything else to prevent wastage within a unit. In connexion with this matter it must always be remembered that there is only one standard, and that is perfection. Any other standard is a variable one which tends to deteriorate. In back areas, particularly, where the maintenance of a high standard of hygiene trains the unit for what is to come, this dictum should be carried out to the point of absurdity. Garbage tins should be polished so that you can see your face in them; the slightest speck of dust found anywhere in the cookhouse should make the cook feel uncomfortable. When you reach this standard you have your unit trained, temporarily.

There is a tendency on the part of officers and men to think that the regimental medical officer is responsible for the hygiene and sanitation of his unit, especially if he is conscientious and enthusiastic. It cannot be too strongly emphasized that the section leader is responsible for the hygiene and sanitation of his section; the platoon commander, not the sergeant, for that of his platoon; the company commander, and not his second in command, for that of his company. Work, but not responsibility, may be delegated. Four men detailed for sanitary duties in each platoon are not responsible for the sanitation of the unit; they only report on it. The medical officer is not responsible for the sanitation of the unit; he merely advises on it. The responsibility lies with the unit and sub-unit commanders.

Before considering the regimental medical officer's duties in this sphere, we must have an idea of the assistance with which war establishment provides him.

#### Water Duties.

Two men in six platoon are detailed for water duties, under the control of the quartermaster. The medical officer will see that they are proficient in their duties, that the drivers of water carts can also carry out these duties, that some reserve men are trained for water duties and that the water carts are kept in working order.

#### Sanitary Duties.

##### *Battalion Sanitary Duties.*

Four other ranks in six platoon, under the control of the quartermaster, are detailed for sanitary duties. These are useful in standing camps and are obviously designed for trench warfare; they have not yet proved of any value in the field. Their functions are sanitary inspection and the making of daily reports to the quartermaster.

##### *Company Sanitary Duties.*

One man per company must be trained in sanitary duties (part time). The medical officer will see that these men have been detailed and trained. It will be necessary to "check up" on this once a month at least. These men will report every day on the condition of the lines to the second in command of the company and see that steps are immediately taken to rectify any faults.

#### Regimental Medical Officer's Duties.

##### *In Back Areas.*

*Standing Camp.*—The tedious daily round of inspection of latrines, grease traps, lines, cookhouses and mess huts plays a most important part in training. The men for sanitary duties and their working party are responsible for latrines and grease traps, company commanders for lines, and the obvious excuses, such as "not in our area" and "here when we came", should be disregarded. The sergeant cook is responsible for cookhouses and the company quartermaster sergeant for messing. There will invariably be overlapping in responsibility, more apparent than real, especially between cookhouse and mess huts. When these difficulties arise the responsibility should be fixed and laid down once and for all. From then on perfection should be insisted on. Cooks frequently have difficulty in reaching the required standard. They should allot work to their working party, the allottee should report when the job is completed, and the cook should then inspect the work and pass it if it reaches the required standard, otherwise order more to be done. Pick out the major fault first, then polish up the minor ones. Remember, no fault is small enough to be overlooked. In this way perfection will be reached. During this rest period extra men should be trained for water duties and a record kept of their names. They may be drawn from anywhere in the battalion. The pioneers should also come in for attention. The pioneer officer frequently does not realize the proper role of his platoon, and the medical officer can set him various tasks that will add to their training and efficiency. For example, he can make a number of deep trench superstructures before a tactical exercise and instal them in the field during the exercise, with the help of the men detailed for sanitary duties.

*Battalion Dispersed (Security Duties) et cetera.*—The regimental medical officer must visit and inspect all posts frequently. He should make out a roster for himself, leaving the battalion headquarters area to the orderly officer on the days when he is out. His inspection in each post covers the same points, but there will be much to be done, especially in the installation of latrines. Under conditions such as these the medical officer should as a rule exceed his normal duties. He is a responsible officer paying a visit from battalion headquarters, and as such he can often expedite matters normally outside his province. On his return from one of his trips he usually has a list of his own of things for the quartermaster and pioneer officer to do; but in addition he can arrange matters such as rations, ammunition, engineer stores and so on, which would normally have to wait for a visit from the commanding officer or second in command.



*In Forward Areas.*

Hygiene and sanitation become a matter for the section leader in a theatre of operations. He is responsible to his platoon commander, who is in turn responsible to the company commander. With good section corporals and an energetic and hygiene-conscious company commander or second in command, the standard will be good. Cooking may be done at B echelon, on a company basis, or on a platoon or section basis. Section cooking is usually the most satisfactory.

In addition to his cooking, the section leader has to provide his own latrine and refuse disposal.

The regimental medical officer must make detailed inspections as frequently as possible and work out a system of hygiene for the section leader. Ammunition cases make good flyproof containers for broken rations. Every post should have a properly constructed deep trench latrine. All food scraps and tins should be burned immediately after every meal. Attention should be paid to the men's dixies, as they tend to be neglected under fire. Deep trench latrines should be about twenty yards from the post and to leeward. This is not only hygienic but good for morale, as it ensures that every soldier will get out of his shelter and walk forty yards in the open at least once a day. Men who remain too long under cover become "bomb-happy". In the sitting of "desert roses", it must be remembered that at night a soldier will not walk more than ten yards to empty his bladder; nor will he walk through wire.

In a theatre of operations the water duty men come into their own. They will need careful supervision for the first few days, after which they can usually be left to carry on. Sanitary duties men may be used to inspect company areas, but usually it will be more satisfactory for the regimental medical officer to do this himself and to give them B echelon to look after. Quite apart from hygiene, the officers and men in the rifle companies appreciate an occasional visit. B echelon should never be neglected by the medical officer, as it is usually the worst part of the unit from the hygienic point of view.

Sanitation in forward areas boils down to the advice: "Burn and bury." Teach the men to construct a proper flyproof deep trench latrine and insist on a depth of at least six feet, even if compressors and gellignite are necessary; teach them to make an incinerator and to burn rubbish completely, and the problem is solved.

**STRETCHER BEARERS.**

The first part of this section will refer to the stretcher bearers attached to rifle companies. Headquarters company details will usually be served by the nearest rifle company, but the special requirements of this company will be discussed at the end of the section. Before we consider their work, let me say a word about their selection.

There are three recognized methods:

1. The unit may be raised from a recruit training depot. When all companies are up to establishment, the undesirables and rejects are made stretcher bearers.

2. Stretcher bearers may be specially selected because of their knowledge of first aid. They have studied first aid in civil life because they are temperamentally unsuited to play football and drink beer as normal people do. They are undersized, medically unfit, and tie tourniquets round the forearm.

3. The band will be the stretcher bearers. Thus the stretcher bearer sergeant, who has to evacuate wounded under fire, is selected for this job because of his ability to play the cornet. The man who is to save his comrades' lives is chosen because he is a good drummer; it takes bravery and initiative to play the drums. At the best, the band consists of a group of temperamental musicians, and as a group it reacts poorly to the stresses of action.

It will be seen that none of the accepted methods of selection is satisfactory. The remedy is in the regimental medical officer's hands. He must insist on selecting his own men. Transfer good men from rifle companies; get men who are men; it is easy to give them the small amount of medical knowledge they need. Stretcher bearing calls

mainly for "guts" and common sense. War establishment provides the regimental medical officer with the following assistants: Australian Army Medical Corps "attached" (one sergeant, one corporal chiropodist, two privates). Stretcher bearers (one sergeant, two corporals, one lance-corporal, seventeen privates). One orderly. One batman. It will be seen that there are 23 men from the battalion and four "Australian Army Medical Corps attached". It has been my practice to draw my batman from the latter and to make stretcher bearers of the whole 23 regimental men. This provides five squads of four, with three non-commissioned officers free for organization.

**Work of Stretcher Bearers.***In Back Areas.*

*Standing Camp.*—Stretcher bearers will live together at battalion headquarters. Intensive training will be given to the new hands and refresher courses to the old. All will be given an opportunity in rotation to work in the regimental aid post. Advantage should be taken of inoculations to teach stretcher bearers to use a hypodermic syringe.

*Battalion Dispersed (for example, Security Duties).*—Stretcher bearers will be attached to rifle companies, four per company. Any given squad will always be attached to the same company. In this way stretcher bearers will get to know the company and the company know and have confidence in the stretcher bearers. Company commanders may have any man replaced with whom they are not satisfied. Stretcher bearers, during these periods, will come under company commanders for leave and discipline. They will conduct daily sick parades and treat minor disorders. Two copies of the daily "sick report" are to be sent to the regimental aid post, one for the medical officer and one for battalion headquarters. Men to be examined by the medical officer will either be sent in on the ration truck or evacuated immediately by ambulance. In urgent cases, if the field ambulance is closer, they may be sent there direct. Stretcher bearers will indent on the regimental aid post once a week for stores. They are available for picquet duties at company headquarters, but should not be used as a rule if it can be avoided. The regimental medical officer will visit each of his squads as frequently as possible.

*In a Theatre of Operations.*—Stretcher bearers will remain attached to their companies at all times. They will have their shell dressing haversack and scissors with them at all times. Number 1 bearer will carry morphine and a syringe. Two stretchers will be carried on company A echelon transport.

*In Attack.*—Stretcher bearers will move deployed in the vicinity of company headquarters. The stretcher bearer sergeant with the help of the fifth stretcher bearer squad may form a forward collecting post, through which all casualties will be evacuated. This post will not always be formed. It depends, especially at night, on the presence of a good landmark. Whenever ground permits motor transport should be used to evacuate wounded from the forward collecting post.

*Communication:* By day an observation post in the vicinity of the regimental aid post can follow the movement. The stretcher bearer non-commissioned officer will signal for a truck when required. By night a petrol tin is carried with a cross cut out of one side. A light shining through this cross will be the signal when motor transport is required. The driver will then proceed to the light. A man will walk in front during the first trip at least, in order to avoid trenches, wire *et cetera*.

*In Defence.*—One stretcher bearer will remain with each company headquarters and one with each platoon headquarters. This distribution may have to be changed owing to tactical considerations. Duties are the same as in back areas when the battalion is dispersed. The medical officer will visit all his stretcher bearers frequently. Evacuation of casualties to the regimental aid post will be carried out in the following way. "Non-urgent sick" will at all times go by ration truck or walk. The wounded will be taken



to forward collecting posts, few in number, usually situated in a company or platoon headquarters. The siting of these posts depends on the ground and motor transport routes to and from the regimental aid post. The wounded are carried to these posts, then go by motor transport to the regimental aid post in the regimental aid post truck or company A echelon vehicle. The driver must be familiar with the routes by night. When taking over a new sector the driver should walk over these routes a day or two before the relief.

**Raids and Fighting Patrols.**—The medical officer will be kept informed of proposed raids. He will establish a wounded collecting post in the most forward post through which the patrol is to return. It will be manned by stretcher bearers, who may have to be drawn from other companies for the purpose. They will have splints, dressings and morphine. When morphine is given an "M" will be marked on the casualty's forehead and the dose and time will be written on a slip of paper attached to the man. The writing of the dose and time of administration on the forehead is usually unsatisfactory. A fighting patrol is responsible for taking its own wounded back to the company area. Stretcher bearers will accompany fighting patrols, on the basis of one per platoon or less, to act as skilled dressers. Stretchers will not be taken. A fighting patrol is a hit-and-run affair, and if stretchers are sent out, stretcher bearers are left behind with a man on a stretcher, after the patrol has withdrawn, often to be wounded or captured. The patrol should send its wounded back in carriers whenever possible.

#### *Stretcher Bearers and Headquarters Company.*

Normally the elements of headquarters company will be evacuated through the medical service of the nearest rifle company. In connexion with the new carrier command, the following ideas might be considered. I have not yet put them into practice.

1. Every man in the command must have an elementary knowledge of first aid. This will include the treatment of shock, hæmorrhage and fractures, the application of first field and shell dressings, and the treatment of burns and of wounds of the chest and eye. From time to time the medical officer will report to the commanding officer on the proficiency of the men. Those who do not come up to standard will be replaced.

2. Stretcher bearers must be attached and must be mobile. It is suggested that two stretcher bearers be attached. They will (a) travel in a 15-hundredweight B echelon vehicle, (b) keep in touch at all times with the carrier commander, (c) carry two stretchers, shell dressings, splints, morphine and material for dressing burns, (d) be provided with leather gauntlets (for use in removing men from burning vehicles) and (e) carry maps and compass and be proficient in map reading.

#### **THE REGIMENTAL AID POST.**

##### **In Back Areas.**

##### *Site.*

The regimental aid post will be established in a building or tent near the battalion headquarters. There will be two rooms, one for examination and one for treatment. There will be a good supply of water, preferably laid on.

##### *Duties of the Staff.*

The sergeant, Australian Army Medical Corps, will carry out the following duties: (i) See that "sick parade" is paraded properly and on time, and that the "sick report" is prepared in triplicate; (ii) see that "sick reports" during the day have been signed by the company commander; this ensures that urgent cases are treated as urgent; (iii) supervise all treatment; (iv) submit one copy of the "sick report" to the battalion orderly room immediately after every "sick parade"; (v) complete weekly returns to the assistant director of medical services every Sunday morning; (vi) indent once a week for expense stores and ensure that sufficient are on hand at all times (a week's

reserve should be carried, as there is always delay in obtaining expense stores after a sudden move); (vii) keep supplies up to the stretcher bearers when they are attached to companies; (viii) keep a record of the dental condition of the battalion and arrange dental parades; (ix) keep a record of inoculations; (x) ensure that war equipment is maintained complete and in good condition; (xi) supervise the training of stretcher bearers attached to the regimental aid post for instruction; (xii) see that someone is on duty at the regimental aid post at all times.

The corporal chiropodist will carry out the following duties: (i) Attend all sick parades and carry out the necessary treatment; (ii) attend all company foot inspections and make a note of men requiring treatment; (iii) keep a record of all men with bad feet; (iv) refer men to the medical officer when necessary.

The orderlies will be as follows: one private (Australian Army Medical Corps) in addition to stretcher bearers (attached) to act as dressers.

**The Medical Officer.**—In back areas the medical officer will conduct a daily "sick parade", usually at 0700 hours. It should be early enough for men to be seen and treated, to have their breakfast, and to be on battalion parade on time. The medical officer should always conduct these parades himself, even though the complaints are usually so trivial that an intelligent private can deal with them. He will get to know the men—those who are genuinely ill and those who malingere or exaggerate complaints. A card index system should be kept, showing every man's medical history, and with each attendance marked "D", "L", "N" or "S", according to whether he was put on full, light or no duty, or "evacuated sick". This involves a little work, but it is useful, especially in orderly rooms and courts-martial, as it gives at a glance the man's history since his enlistment. Pertinent remarks as to character or serious illnesses may be written on the back of the card. This system is invaluable to a new regimental medical officer on his joining the battalion. He will be forewarned about the malingers who will "try out the new doctor", and will know those who need careful handling. He will also have the past history of every man better than the man himself can give it.

In back areas, especially when the unit has just come from a theatre of operations, the medical officer will have a lot of cleaning up to do. First and foremost will be dental attention. He will have to arrange boards and consultations for men he has been keeping in the line with non-urgent complaints. He will have to check over his war equipment.

#### **In Action.**

##### *Site.*

The site will be chosen by the commanding officer with the approval of the medical officer. It should be near battalion headquarters, both in attack and in defence.

In attack the regimental aid post may have to be moved. If this is necessary, the following considerations should be applied: (i) Moves should be infrequent. (ii) All companies should know, well in advance, the new site and the time at which the regimental aid post will move. This information should also be given to the field ambulance. The general rule is for the regimental aid post to move as part of the battalion headquarters group. The exceptions are (a) when the battalion is moving by road and not in action—the regimental aid post moves in the rear, and (b) on routine reliefs in defensive warfare—the regimental aid post will move as early as possible and be set up in the new position. Previous reconnaissance by medical officers, stretcher bearers, sergeants and driver is necessary.

In static warfare the regimental aid post should consist of one dugout, 10 feet by 16 feet in area and 6 feet to 8 feet deep, with a solid roof. Its purpose is to contain four to six beds for men who become ill in lines. There should be one dugout of similar dimensions, for dealing with battle casualties, and a third dugout, with or without roof, for treating men with septic wounds, desert sores *et cetera*. All

three dugouts should be in communication. The regimental aid post should always be supplied with a telephone in a theatre of operations.

#### *Duties of the Staff.*

Routine duties remain the same. In addition, the sergeant will be responsible for water supply and conservation, and for the return of salvage to B echelon on empty ration trucks. There should be one other rank for medical comforts and light diets for the sick in the regimental aid post; he will usually be the medical officer's batman, who also acts as regimental aid post cook. One other rank is required for sanitation.

**The Medical Officer.**—The medical officer will have to deal with the sick and wounded. In dealing with the sick, the time of sick parades is usually governed by the movements of ration trucks and the attitude of the enemy. Usually they are held at midnight and 1100 hours—at midnight because the ration trucks return from the forward posts at that time, or at 1100 hours because the medical officer is asleep until that time. Management of the sick is most important, and no man must be evacuated who can fire a rifle. The individual man may sometimes suffer, but if he is evacuated his comrades will suffer and he may be killed or wounded in any case.

In connexion with the "shell shocked", "bomb-happys", or whatever you may call them, the following is my rule. I do not claim to be a psychiatrist, but I am an observer and have a certain amount of common sense. These men may or may not have a conflict originating in childhood; their mental balance may or may not be poor—I do not know. What I do know is that they are usually overtired and go through a terrifying experience in that condition at a definite place. Their fear of the place is just as fixed as their fear of the bombing or shelling that happened at that place. The first thing I do is to send them to B echelon for three days for a complete rest, to be given bromides and morphine, if necessary. Then, when they are rested, I bring them back and put them right up in the front line where the psychic trauma occurred. Put them with good men who will encourage them, and they will usually recover. They must walk about in the open by day and by night. They can see that shells do not rain down all the time, and overcome their fear of the place. They will become familiar with the sound of shell-fire, learn to recognize the shell that is coming close, and lose their fear of shells (except for the normal and natural apprehension). If the man is evacuated and not brought back early, his fears become fixed and he loses his self-respect for life. Any normal man who stays in a deep shelter too long will become "bomb-happy". These men must go into the open for long periods every day, or the open becomes a place to be feared—the place where the shells fall.

In connexion with the wounded, the following measures should be taken: stop hæmorrhage, treat shock and send them on. There is one surgical procedure the regimental medical officer must perform; he must tightly close sucking wounds of chests with silkworm gut. There is only one other he may perform—the tying of a large bleeding vessel; this is only occasionally called for. No other surgical treatment should be attempted in the regimental aid post.

The most convenient, rapid and efficient method of immobilizing fractures is by means of plaster of Paris slabs for all bones except the femur, for which a Thomas's splint should be used. The slabs are applied after hæmorrhage has been controlled by shell dressings.

#### *Drill on Receipt of Wounded.*

The wounded will be placed on the table by stretcher bearers in order of urgency and removed after treatment. A useful table is made by resting the stretcher on which the man is brought in on two trestles. The sergeant fitter can make a useful operating light out of an old headlamp, a battery and a few feet of piping.

The sergeant, Australian Army Medical Corps, will have a supply of dressings, morphine, large cutting needles

threaded with silkworm gut and plaster of Paris. He will assist the medical officer with dressings. He will give morphine when necessary.

The corporal chiropodist will complete field medical cards and attach them to the patients, see that every man has his gear and that it is labelled, keep a record of the wounded, and submit a list of the wounded, with a statement of the nature of their injuries, to the report centre at battalion headquarters as early as possible.

One private will hand out splints and dressings, dress minor injuries, and see that the wounded are brought to and removed from the table promptly and are covered with blankets.

The other private will make coffee with milk and sugar, and see that every man drinks as much as he can. This man will, of course, have been taught the contraindications to the administration of drinks.

#### *Field Ambulance.*

With the approval of the ambulance commander, the following will be the routine for the field ambulance. Ambulance stretcher bearers will be attached to the regimental aid post. They will lift wounded on and off the table, and carry them to the ambulance when sufficient have been dressed to fill the vehicle. An ambulance will be attached to the regimental medical officer during the whole time his unit is in a theatre of operations. It will be as close as possible to the regimental aid post by day, and will be brought to the regimental aid post when required by night. All wounded must have their kit before the ambulance leaves.

#### *MEDICAL EDUCATION OF THE UNIT.*

A great deal can be done to educate the unit in hygiene by giving reasons for orders issued during routine inspections. The man learns more by having to do something than by listening to a lecture. After a time hygiene becomes a habit. Teach and insist on good habits from the start, and you will have a good unit.

Lectures should be given to all ranks on venereal disease and first aid; teach them how to control hæmorrhage, treat shock and fractures, care for the feet and apply the field dressing. Make lectures brief—half an hour is long enough—and drive home one or two points only. A company is a large enough group to take at one time. A course of these lectures should be given every few months.

Courses of lectures should be given to the officers. Besides teaching them what they should know, you can tell them their responsibilities with regard to the health of their men.

Intensive training in first aid should be given to selected groups. All the carrier group should have a sound knowledge of it. In addition to these, it is a good idea to train a certain number of men in each company, so that they may be used to replace stretcher bearers who may be killed or wounded. A course of training of one week's duration should be given to these groups, consisting of lectures by the regimental medical officer and demonstrations by stretcher bearers and Australian Army Medical Corps non-commissioned officers. Extra men for water duties and sanitary duties should also be trained and a list kept, so that these essential men can be replaced at a moment's notice.

#### *PERSONAL MORALE.*

The greatest danger to good personal morale in a forward area is to spend too much time below the ground in a safe place. The regimental medical officer, by the nature of his work, is exposed to this danger. He must get out as much as possible. The posts should be visited daily. Apart from his duty that takes him there, it will be found that isolated sections appreciate visitors just for the social intercourse. The medical officer should spend most of his time going round the lines. In this way he will become familiar with shell-fire, and familiarity will breed contempt. This does not mean that I advocate disregard of the principle that a regimental medical officer should not leave his regimental aid post. When casualties are occur-

ring or expected, the regimental medical officer's place is in the regimental aid post. He will often be tempted, when a raid is mooted, to go up to a forward post and thus see the wounded sooner. He must resist this temptation. If he does not he will leave the rest of the battalion without the services of a medical officer. Apart from this one restriction, the formula for morale is: "Get out and live dangerously."

#### ACKNOWLEDGEMENT.

I wish to thank the Director-General of Medical Services for permission to publish this article.

### Reports of Cases.

#### A CASE OF METALLIC FOREIGN BODY IN THE LEFT BRONCHUS.

By H. BALDWIN GILL,  
Perth.

THIS case is reported mainly to emphasize the importance of trying to find an exact duplicate before attempting the removal of a foreign body. It matters not what type of foreign body is present, nor whether it is in the air or the food passages; practice on the "mannequin" is of inestimable value. It enables the operator to study the problem from the point of view of "forceps space", probable presentation, possibility of improving an awkward presentation, type of forceps offering the best grip, and so on.

#### Clinical Record.

The present patient was a boy, aged six and a half years, who inhaled a metallic foreign body on August 18, 1942, while at school. After a comparatively short period of respiratory distress he became quite comfortable, and shortly afterwards the foreign body was found by X-ray examination to be occupying the lower end of the left main stem bronchus. He was more than 300 miles from Perth, and his doctor reported that his condition was excellent, and that the metallic body obviously had a lumen which was providing unimpeded airway to the lower lobe of the left lung.

On his arrival in Perth three days later the position had not altered, and the child's condition was still quite normal. The X-ray shadow suggested the possibility that the intruder might be a portion of a bicycle valve. When the aid of a skilled mechanic was sought, however, he at once recognized it as the high-tension clip of an ordinary spark plug. A duplicate was immediately forthcoming, and was recognized by the patient with eager hand outstretched. This type of clip is threaded onto the central terminal of the spark plug. The threaded end of a sparking plug terminal was welded on to a long steel wire fitted with a milled disk at the other end for ease of handling. No difficulty was experienced in threading this improvised instrument into the foreign body. This manipulation was carried out under direct vision through a six-millimetre bronchoscope. Extraction of the foreign body was thus effected with a minimum of trauma and in a few seconds. Preliminary practice with the duplicate had proved that the foreign body was of such a size as to permit its withdrawal into the bronchoscope.

The child's recovery was rapid and uneventful.

### Reviews.

#### AVIATION MEDICINE AND ITS BIBLIOGRAPHY.

A REMARKABLE BOOK has been issued under the auspices of the Historical Library of the Yale Medical Library; it is "A Bibliography of Aviation Medicine" and has been compiled by Ebbe Curtis Hoff and John Farquhar Fulton.<sup>1</sup> The volume has been prepared for the Committee on Aviation

<sup>1</sup> "A Bibliography of Aviation Medicine", by Ebbe Curtis Hoff and John Farquhar Fulton; 1942. Springfield: Charles C. Thomas. London: Baillière, Tindall and Cox. 11" x 7½", p. 253. Price: \$4.00, post paid.

Medicine of the Division of Medical Sciences of the National Research Council, acting for the Committee on Medical Research, Office of Scientific Research and Development, Washington, D.C. The book consists of a series of approximately 6,000 references to aviation medicine in scientific literature of practically all countries. The work of compiling this book must have been colossal, and the volume which covers the literature up to May 31, 1942, reflects the greatest credit on all who have had to do with its preparation. As we read in the preface, the growing literature on aviation medicine has already become vast; it not only cuts across medicine itself, but embraces nearly all phases of biological science and encroaches extensively upon physics and chemistry. To classify this enormous literature, it was necessary to ascertain the whereabouts of some 800 journal files, only about half of which were in the purely medical field. The Russian periodicals, about 35 in number, raised problems of transliteration or of translation, and difficulties of the same kind were encountered in the literature of Japan, Poland, Hungary and Rumania. The range of material covered by this book, in other words the range of aviation medicine, is shown by the sections under which the references are grouped. They are as follows: history and general aspects of aviation medicine; the special physiology of aviation and conditions simulating flight; the special pharmacology of aviation and conditions simulating flight; the special psychology of aviation and conditions simulating flight; aero-microbiology (bacteriology and immunology in aviation and high altitudes); diseases and accidents in aviation and conditions simulating flight; selection and assessment of efficiency of flight personnel; training, performance and fatigue of flight personnel; protection of flight personnel—preventive medicine and therapeutics of aviation; aviation and public health (sanitary aviation); organization of aviation medicine; special problems; general studies in aviation medicine. Each of these sections is preceded by a short introduction. An index of authors and an index of subjects conclude the work.

This volume will be indispensable to every medical and scientific library, and should be in the hands of all who are particularly interested in the scientific side of aviation.

#### "PYE'S SURGICAL HANDICRAFT."

THE appearance of the thirteenth edition of "Pye's Surgical Handicraft" reminds us that the perils from enemy bombing in London extended even to books.<sup>1</sup> Destroyed with its illustration blocks and a large number of its original illustrations, only to be bombed again as publication was near at hand, this thirteenth edition at times seemed fated.

That Hamilton Bailey and his collaborators should still have produced a book better than any of its predecessors, and containing over 500 new illustrations, is a matter for congratulation. Its expressed intention is to serve as a handbook for young house officers, and a more valuable and complete guide can scarcely be imagined. Nothing material to this purpose seems to have been omitted, and fortunate indeed would be the visiting surgeon whose "resident" knew even half that is contained in this treasury of knowledge.

Only certain minor points call for criticism. We are sorry that prolonged pre-operative preparation of the skin is still advocated, in spite of the theoretical and clinical objections to this course. Though the value of plasma protein administration is stressed, the indications given are purely empirical, and the simplicity of plasma protein estimations appears not to be appreciated. Concerning proctoscopic examination, the paramount importance of preliminary digital exploration has been neglected. "As the proctoscope is withdrawn further lesions in the anal canal, for example, a fissure, will become apparent", is true enough if the examiner has been able thus far to restrain his unfortunate patient from departing rapidly for parts unknown.

The present size of the book is ideal for its purposes, and its distinguished editor can be assured that the name of the late Walter Pye will remain a household word to many more generations of young medical men.

<sup>1</sup> "Pye's Surgical Handicraft: A Manual of Surgical Manipulations, Minor Surgery, and Other Matters Connected with the Work of Surgical Dressers, House Surgeons, and Fractitioners", edited by Hamilton Bailey, F.R.C.S. (England); Thirteenth Edition; 1942. Bristol: John Wright and Sons, Limited; London: Simpkin Marshall (1941), Limited. 8½" x 5½", pp. 548, with 534 illustrations. Price: 25s. net.



# The Medical Journal of Australia

SATURDAY, FEBRUARY 13, 1943.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

## THE SCURVY PROBLEM OF TODAY.

NEITHER the medical profession nor the public needs to be reminded of the imperative need for the maintenance of a high standard of health in the community during the conduct of the present war. To draw attention to the part played by food in the preservation of health would be to stress the obvious. The people of Australia are fortunate that their food problems are those of quality rather than quantity. Their task is on that account none the less urgent—the stronger and healthier the people of the Commonwealth are, the greater will be their contribution to ultimate victory and the sooner will the plight of starving millions in enemy-ridden countries be relieved. One of the problems of food quality associated with the present war, as it was with the last, is the condition occasioned by a shortage in the diet of vitamin C. Frank scurvy, with its characteristic muscular swellings, its petechial hæmorrhages, its swollen and bleeding gums and its osteoporosis, was not often seen in this country before the war. On the other hand pædiatricians will agree that it was not uncommon to find children whose symptoms might be explained only as the result of partial deprivation of vitamin C. The planning of a suitable diet when food of all kinds was plentiful was not always simple because the income of breadwinners had to be considered, and it is a little ironical that now when many men and women with children to support are earning more than they earned before the war, some essential foodstuffs should be hard to obtain. In the circumstances it is fitting that the attention of readers should be directed to an important paper on the nutrition of the pre-school child by Dr. Vera Scantlebury published in this journal on July 30, 1938. In her masterly discussion Dr. Scantlebury described *inter alia* a sample optimal diet for a child of five years and an economical but satisfactory diet for a child of that age. Economy today may be dictated by scarcity of foodstuffs as well as by slender means. In both her sample diets Dr. Scantlebury naturally took care to include a sufficiency of items containing vitamin C. In Great Britain an effort is being made to supply vitamin C to those who need it most. In the "summary report" by the Ministry of Health for the period from April 1, 1941, to March 31, 1942, it is

stated that although imports of citrus fruits had dwindled to vanishing point, children's supplies of vitamin C were secured. Children under six years of age had first call on such supplies of oranges as still reached Britain. Children under two years of age could obtain free or at very cheap rates orange juice or blackcurrant juice or blackcurrant *purée*. In February, 1942, 600,000 bottles of national rose hip syrup were prepared by selected manufacturers at the instance of the Ministry of Health and placed on sale in pharmacists' shops.

The authorities in Australia have not been idle in regard to food and food values. The Australian Food Council was founded in July, 1942, under the chairmanship of the Honourable John A. Beasley, Minister for Supply and Shipping. The council receives advice from two scientific bodies, the Council for Scientific and Industrial Research and the Nutrition Committee of the National Health and Medical Research Council. The last mentioned of these two bodies has appointed a Nutrition Committee in each State. The Nutrition Committee in New South Wales has recently been made aware of the occurrence of several cases of severe scurvy and it has appointed a subcommittee to investigate and report upon these cases. The chairman of the subcommittee is Dr. Grace Cuthbert (Director of Maternal and Baby Welfare of the Department of Public Health of New South Wales) and the two members are Dr. Margaret Harper, Honorary Consulting Physician of the Royal Alexandra Hospital for Children, and Dr. S. W. G. Ratcliff, Chief Medical Officer and Medical Superintendent of the hospital. From this subcommittee we learn that since July, 1942, twelve patients suffering from severe scurvy have been admitted to the Royal Alexandra Hospital for Children. In these cases all the classical symptoms of the advanced disease were present. Two of the patients died in spite of intensive treatment. A third was admitted to hospital with a fractured leg, a predisposing cause of the fracture being osteoporosis, the result of the scurvy. An important clinical point in connexion with the third case is that the relationship between the fracture and the scurvy was not recognized before the admission of the patient to hospital. These twelve cases of scurvy raise several points that call for urgent discussion. The reasons for the increase in the occurrence of the disease and the further steps called for in regard to prevention are of the first importance; consideration must also be given to the diagnosis of florid and of mild scurvy.

In regard to diagnosis, the least important of the aspects mentioned, there should be no difficulty in the recognition of frank scurvy. That difficulty is experienced, however, is clear from the fact that in one of the twelve recent cases the osteoporotic element in the causation of fracture was not noted. Diagnostic lapses of this kind are almost certainly due to inadvertence and not to lack of knowledge. We cannot imagine that if the possibility of the occurrence of scurvy is kept in mind—and there should be no difficulty about that at the present time—any established case of the condition will ever be missed. Scurvy should be diagnosed before it has reached the florid stage. There is no need to raise the question as to whether minor degrees of vitamin C deficiency are a common cause of disability or of predisposition to disease in man, for it has been held that this is hard to determine. It is safer and wiser to regard even minor deficiencies of the vitamin with grave suspicion; and there is a certain amount of evidence to

justify such an attitude, even if we go no further than the work that has been done on vitamin C and the healing of wounds. Further it must not be forgotten that scurvy is a disease of adults as well as of children and that the food crank has been stated as being without doubt liable to it. When minor deficiencies are suspected the question may be settled by means of biochemical and other tests and methods of examination which need not be discussed at present.

The increase in the incidence of scurvy is almost certainly due to the difficulty in obtaining citrus fruits and to their high prices. In spite of what has been stated about the higher wages that are being earned, this does not hold true of all members of the community, and in any case increase in wages would have to be fairly great to stand up to the recent increase in the price of high grade citrus fruits. In many parts of the continent crops of citrus fruits have not been nearly so great as in previous years and a large percentage—we understand about 33%—has been taken for the fighting forces. Other fruits and vegetables have been just as scarce as citrus fruits, if not scarcer, and their price has been proportionately higher. The hope expressed in these pages some months ago that in Australia some product would be forthcoming that was analogous to the rose hip juice prepared in England has not been realized. Two courses of action appear to be possible. The first is to secure an equitable distribution of citrus fruits and the second to prepare and distribute a synthetic form of vitamin C. The second of these courses is being adopted, for we understand that tablets of ascorbic acid (each tablet containing twenty-five milligrammes) have been prepared and will shortly be issued to all baby health centres. Presumably they will be made available to pharmacists that medical practitioners may prescribe them for their patients when required. There should be no difficulty about the equitable distribution of citrus fruits. The Commonwealth Government has the matter in its own hands and can, if it will, set going along right lines the machinery that it has just created. On January 6, 1943, the Minister for Supply and Shipping issued the "Control of Citrus Fruits Order Number 2". This order puts into the hand of a controller the power to direct a grower of citrus fruit to pick and sell to any specified person any or all of his fruit. If the controller is chosen wisely and the retail price of citrus fruit is fixed, there should, with the ascorbic acid tablets in use, be some lessening of vitamin C deficiency in the community.

## Current Comment.

### ERYTHEMA NODOSUM.

A SEARCH through text-books on dermatology will show that a great difference of opinion still exists regarding the condition known as *erythema nodosum*. Molesworth tells the story in his "Introduction to Dermatology". *Erythema nodosum* was originally regarded as a special form of *erythema multiforme* and both were thought to be manifestations of acute rheumatism. Even when *erythema multiforme* was no longer regarded as essentially rheumatic, *erythema nodosum* was still held to be rheumatic. Molesworth states that there is considerable ground for believing that a condition indistinguishable from *erythema nodosum* really does occur in a notable number of cases of acute rheumatism. There is a strong

body of opinion that *erythema nodosum* is a specific disease due to a particular microorganism. Many persons believe it to be a manifestation of tuberculosis; evidence has been adduced to show that the recurrence of *erythema nodosum* has been followed by the development of tuberculosis. The condition has been described as a manifestation of syphilis. Molesworth, "in the presence of such a diversity of opinion", regards as probable the interpretation of *erythema nodosum* as a disease *sui generis*; at the same time he keeps open what a former Australian surgeon of renown called the "little loophole", that similar or almost identical lesions may occur as a result of other infective processes such as acute rheumatism and streptococcal disease. V. H. Moon and Abram Strauss put the matter succinctly in 1932<sup>1</sup> when they described "three suppositions"—that *erythema nodosum* is a manifestation of rheumatic fever, that it is a tuberculous manifestation and that it is an independent and separate disease, probably of an acute infectious character. These observers isolated from *erythema nodosum* lesions an organism which they called *Corynebacterium cutis-nodosum*. This organism on inoculation into animals produced erythematous lesions and was recovered in cultures from these lesions. The late Alfred Austin London, of Adelaide, held that *erythema nodosum* was an acute specific fever, met with and best studied in general practice. He renamed the condition nodal fever and wrote a book about it in 1905. In later years he wrote about the same subject again<sup>2</sup> and stated that the verdict about his suggestion was that it was "not proven".

M. H. Poppel and A. M. Melamed have recently reported investigations carried out in 88 cases in which a diagnosis of *erythema nodosum* was made.<sup>3</sup> The patients, it should be noted, did not come under the personal observation of the authors; the diagnosis was made on the discharge of the patients from the Mount Sinai Hospital, New York. The most interesting point about this communication is the great variety of conditions with which the *erythema nodosum* was associated. In 13 of the 88 cases no evidence of associated disease was obtained. In the remaining 75 the associated conditions and number of cases were as follows: tuberculosis, 4; rheumatic heart disease, 7 definite and 10 questionable; ulcerative colitis, 6; upper respiratory infections, 49; arthralgia, 28; drug ingestion, 8; inactive syphilis, 4; gonorrhoea, 4; herpes zoster, 1; measles and otitis media, 1; eye disease, 1; prostatic abscess, 1; post-operative infection of abdominal wall, 1; axillary abscess, 1; peritonsillar abscess, 1. Poppel and Melamed point out that these diseases have no common causative agent which might be expected to be the cause of *erythema nodosum*. Interesting radiological observations were made. Chest skiagrams were available in 56 of the 88 cases. In 14 instances pulmonary changes or enlargement of the intrathoracic lymph glands or both were present. Twelve of the 14 patients were submitted to tuberculin tests and 11 gave positive reactions. The patients whose skiagrams revealed involvement of glands or pulmonary infiltration or both, had associated disease of the respiratory tract which could account for the abnormalities and often obviously did. In the cases in which *erythema nodosum* was associated with ulcerative colitis, prostatic abscess, peritonsillar abscess, rheumatic heart disease, gonorrhoea, conjunctivitis, post-operative infection, axillary abscess, measles and otitis media, and ingestion of drugs, chest skiagrams failed to show pulmonary change or involvement of the intrathoracic glands.

Though Poppel and Melamed's paper does not throw much fresh light on the *erythema nodosum* problem, and though the association with some of the conditions named by them may have been fortuitous, they do emphasize the wide variation that is possible in the associated conditions. This fact alone is against any aetiological relationship with tuberculosis or rheumatism or any other disease. At present we cannot go further than conclusions such as those stated by Molesworth. Association between *erythema*

<sup>1</sup> Archives of Dermatology and Syphilology, Volume XXVI, 1932, page 78.

<sup>2</sup> British Medical Journal, Volume I, 1925, page 651.

<sup>3</sup> The New England Journal of Medicine, August 27, 1942.

modosum and any other condition may be a question of either preparing the way for the other. When the problem is solved, as it will be some day, it will be solved in the laboratory.

#### AGAR-AGAR: MANUFACTURE IN AUSTRALIA.

ONE of the consequences of the entry of Japan into the war was the cutting off of supplies of agar-agar, which had always reached Australia from that country. Attempts to manufacture agar-agar in this country were immediately made, and a report of the present position has recently been published by E. J. Ferguson Wood, an officer of the Division of Fisheries of the Council for Scientific and Industrial Research.<sup>1</sup> Since agar-agar is widely used as a bacteriological medium, the following short account of Ferguson Wood's investigations up to the present time is published for the information of medical practitioners.

Ferguson Wood begins by pointing out that before the war Japan produced from 2,000,000 to 4,000,000 pounds of agar-agar (presumably *per annum*) by primitive means; the price varied from 3s. per pound upwards in inverse proportion to the severity of the winter. America and Russia also produced a certain amount of agar-agar, and the Russian industry was expanding. The approximate amount of agar-agar imported annually by America was 300 tons, by Britain 200 tons, by Australia 70 tons and by New Zealand 15 tons. At the time when the report was prepared the price of agar-agar was about 25s. per pound, and stocks were being depleted. Work done in Australia has shown that the most suitable type of seaweed for the production of agar-agar is *Gracilaria confervoides*, which grows on sandy flats in water from fifteen to twenty feet deep; a bed may be as much as two feet deep. Sufficient of the seaweed is to be found close to Sydney to produce "a reasonable amount" of agar-agar. Attempts are being made to discover whether it is possible to plant this type of weed in suitable areas; if they are successful, they will make it possible to determine the effect of harvesting. Moreover, the expansion of the industry will probably bring about the discovery of as yet untapped sources of *Gracilaria confervoides*, as well as that of other types of seaweed suitable for the production of agar-agar.

Ferguson Wood describes in detail the process of manufacture of agar-agar from Australian seaweed, and points out that difficulties have to be overcome. The most obvious of these concern the harvesting, drying and bleaching of the weed. They have been overcome to such an extent that "one Australian firm is producing its own requirements for meat canning, one firm is close to production on a commercial scale, and two firms are engaged in laboratory experiments". Although all the firms mentioned are in Sydney, some interest in the matter has been shown by firms in Western Australia and Queensland. Up to the present no dried agar-agar has been produced for "a rather clamorous local market". It is estimated that seven tons of wet, drained seaweed will yield one ton of dried, dark *Gracilaria*, and that eight tons of wet, drained seaweed will yield one ton of clear, bleached *Gracilaria*. Australian agar-agar differs in colour from Japanese agar-agar, unless it is bleached with carbon, and no matter what method of manufacture is used it will differ in form from it. The elasticity of Australian agar-agar is rather greater than that of the Japanese product. Its gel strength seems greater at higher concentrations and less at lower concentrations than that of Japanese agar-agar, and the gel is more transparent; moreover, syneresis is rather greater, "resulting in a more slimy feel". Australian agar-agar has been found to give a better gel in canned meats than Japanese agar-agar, and to be satisfactory for confectionery and for bacteriological media. Ferguson Wood sees a profitable future for the industry. He thinks that "with the development of the industry as a war measure, and with the prices obtainable for agar, it should be possible to write off the capital cost and to be in a position to continue economical production after the

war". "It will be to the interest of agar users to keep the Australian industry in being to offset shortages due to poor seaweed growth or to mild winters in Japan and to break the Japanese monopoly of the market."

#### FLATULENCE.

FLATULENCE is one of the commonest symptoms encountered in medical practice. The cause is often very difficult to determine. Medical practitioners may gain some assistance from studying a recent paper by Walter C. Alvarez.<sup>1</sup> It is necessary first, writes Alvarez, to find out what the patient means when he complains of "gas". The patient may suffer from belching, distension (to which Alvarez applies the expressive term "bloat"), the passage of excessive amounts of flatus by the rectum, or the feeling that gas is trapped in a segment of intestine. Very little of the gas in the intestinal tract is generated there by fermentation. It is mainly nitrogen, remaining from air that has been swallowed. Nitrogen is not easily absorbed from the intestine, and most of it must pass through the tract to be ejected *per rectum*. But gas may be excreted from the blood into the intestine; under emotional stress this may occur with remarkable rapidity. Carbon dioxide and oxygen are not present in the intestine in large quantities; for they are both readily absorbed into the blood. Any obstruction to the venous flow of blood from the intestines causes delay in the absorption of gas, hence distension. Pneumonia, which interferes with the excretion of gases by way of the lungs, can also produce abdominal distension. Gas that forms from the eating of food to which a "patient is allergically sensitive seems often to remain trapped for hours in segments of bowel which are tonically and painfully contracted".

A single gaseous eructation is due usually to a reverse peristaltic wave from an over-full stomach. But repeated belching is always due to swallowing of air. A man may continue to belch in an effort to relieve a feeling of epigastric distress, which Alvarez believes to be due to reverse peristalsis in the stomach. "He may keep on belching for ten minutes or more, hoping that eventually he will get up one huge belch which will delight him and put an end to his distress." Sometimes this big belch is achieved by the administration of sodium bicarbonate. Alvarez believes that the alkali stops the retroperistalsis. It is not enough in treatment to tell a patient that he must stop swallowing air. The medical attendant must endeavour to find out why he is swallowing it. It may be merely a habit, like cracking the fingers; but in most cases anxiety is the cause. In other cases the pain or discomfort demanding relief by belching is cardiac in origin. Coronary artery disease should be suspected when epigastric discomfort occurs on exertion after food. Gall-bladder disease is a common cause of flatulence. In an endeavour to find out the cause of "bloat", the medical man must ask the patient whether it occurs after particular foods, whether it follows excitement or fatigue, whether it disappears with the passage of flatus, and so on. If it is not relieved by the passage of flatus it might be due to angioneurotic oedema of the intestine or to "an abnormal concentration of blood in the abdomen". In such cases X-ray examination will show that the discomfort is not due to the presence of gas. Flatulence is often caused by constipation or by the ill-considered use of laxatives. An enema of saline solution each day for a few days will sometimes effect a cure. Among other things mentioned by Alvarez as apt to cause flatulence are the following: the common cold, overeating, diarrhoea (presumably because of defective absorption), hæmorrhoids, partial intestinal obstruction (possibly malignant disease), and cyclic insanity. Flatulence is a symptom that is too often regarded lightly and treated without due thought as to its cause. It sometimes causes great distress; therefore its origin should be determined if possible. It is sometimes the leading symptom of dangerous disease; therefore it should always be regarded seriously.

<sup>1</sup> Journal of the Council for Scientific and Industrial Research, November, 1942.

<sup>1</sup> The Journal of the American Medical Association, September 5, 1942.



## Abstracts from Medical Literature.

### MEDICINE.

#### Encephalitis.

G. MEIKLEJOHN AND W. M. HANNAN (*The Journal of the American Medical Association*, March 21, 1942) describe an epidemic of encephalitis in Arizona. Encephalomyelitis of horses prevails in Arizona; the condition appeared in the summer of 1941 and was soon followed by eighteen cases of human encephalitis, confirmed by virus neutralization tests, both western equine and St. Louis viruses being present. These viruses have been isolated from *Culex tarsalis* mosquitoes, and St. Louis virus has been found in the serum from many species of domestic and wild mammals and birds and from normal persons. The area of Arizona affected was very hot and dry, and swarming with mosquitoes, including *Aedes vexans*, *Culex tarsalis* and *Culex pipiens* which have all been proved capable of transmitting one or other of these viruses. The disease came on with headache, malaise and pains in back and abdomen. The headache was very severe. Photophobia, drowsiness, and fever up to 101° to 106° F., lasting about eight days, were observed. The fever usually rose to its peak within three days. The sustained fever suggested the diagnosis as a rule. The mental state varied from drowsiness to deep coma. Neck stiffness and Kernig's sign were uniformly present, but not so marked as in meningitis. Tremor, ataxia, spasticity, nystagmus and altered deep reflexes were noted in a few severe cases. Eight patients were seriously ill. Thirteen males and five females were affected, aged between one and sixty-four years. Half the patients were under twelve years of age. The spinal fluid pressure was generally increased to 150 to 270 millimetres of water, the cell count was increased to 45 up to 220 per cubic millimetre, the leucocyte count varied between 8,800 and 32,000 per cubic millimetre. After-effects included slight transient mental impairment. In one case permanent mental and motor damage occurred. There were no deaths.

#### Endocarditis.

C. SMITH, H. C. SAULS AND C. F. STONE (*The Journal of the American Medical Association*, June 6, 1942) review the literature and discuss the treatment of subacute bacterial endocarditis due to *Streptococcus viridans*. Prior to the use of sulphonamides, recovery was very rare, being 1% in all reported cases. Libman reported a 3% recovery rate among 150 patients, and Lichtman and Bierman six recoveries among 634 patients. Since the introduction of sulphonamides higher recovery rates have been reported, 6% during 1936 to 1939, and higher percentages more recently. In 1939 White showed that hyperthermia enhanced the effect of sulphanilamide. In 1941 Lichtman and Bierman reported recovery of four among 25 patients treated by sulphonamides and hyper-

thermia induced by diathermy. Solomon and others, using sulphonamide with intravenously administered typhoid paratyphoid vaccine to cause artificial fever, reported four recoveries among 21 patients. This is the highest reported recovery rate, equal to nearly 20%. The authors publish evidence that various physicians have recorded recovery in 35 cases in the last three years. Four recoveries in 1941 resulted from surgical ligation of an infected patent ductus arteriosus combined with sulphonamide therapy. Fifteen other cases are reported in this issue of the journal. Sulphanilamide, sulphapyridine, sulphathiazole and sulphadiazine were used, the last-mentioned being the least toxic. In conjunction, azosulphamide, heparin, hyperpyrexia, intravenous administration of vaccine and surgical ligation of a patent ductus were employed. Ten of these fifteen patients died within seven months, three have persisting disease, and two remain without signs of disease. An attempt was made to maintain a blood concentration round about 10%, but it is admitted that individuals vary enormously in their ability to concentrate these drugs in the blood. In one case 180 grains of sulphanilamide daily were required to maintain a satisfactory concentration. Intolerance was noted frequently. Solomon gives one-half minim of "TAB" vaccine intravenously in 1,000 cubic centimetres of isotonic sodium chloride solution and 5% dextrose, slowly or rapidly, depending on the height and duration of fever required. The dose is repeated if necessary in one or two hours in order to keep the temperature above 104° F. for three hours. The injections are continued every night several hours after the last meal for seven to ten days. The amount of vaccine is increased as necessary to maintain the desired level of temperature. Coincidentally sulphapyridine (two grammes) is given for the first two doses and one gramme is given thereafter at four-hourly intervals. This is continued for at least one week after the vaccine has been discontinued. Transfusions and other necessary treatment are used freely.

#### Alpha Tocopherol in Neuro-Muscular Disorders.

ALBERT J. LUBIN (*Archives of Internal Medicine*, May, 1942) reports an observation upon the use of a tocopherol in the treatment of 35 patients with neuro-muscular disorders. The group consisted of seven patients with amyotrophic lateral sclerosis, nine patients with muscular dystrophy, five patients with muscular dystrophy of unknown origin, and fourteen patients with other diseases of the neuro-muscular system. Most of the patients were followed at intervals by (a) measurements of muscular strength by dynamometric methods, (b) electric examinations, and (c) measurements of the creatinine and creatine output in the urine. Large doses of synthetic a tocopherol were given to the patients orally and parenterally, and the condition of 31 of them remained stationary or became worse during the period of medication. It was shown for the remaining four patients, who improved in varying degrees, that the a tocopherol probably was in no way responsible for the improvement. The author states that

in view of the lack of response to the a tocopherol, the repeated observations of muscular strength, electric reactions and excretion of creatinine and creatine may provide useful data concerning the course of the diseases studied.

#### The Use of Testosterone in Peripheral Vascular Disease.

SAMUEL B. BRASER AND THEODORE B. MASSELL (*The New England Journal of Medicine*, July 9, 1942) found that testosterone propionate in dosages up to 150 milligrammes a week did not prevent intermittent claudication in the lower limbs of six male patients between the ages of forty-five and sixty-two years who were suffering from occlusive vascular disease. This is contrary to the findings of Arndt in 1939 and Edwards *et alii* in 1939. These workers, however, did not make mention of other therapeutic procedures which may have been used simultaneously, nor was any objective measure of evaluation used. The present authors used a walking test along a level unobstructed hospital corridor, kept at a nearly constant temperature of 72° F. during most of the year, at a constant pace rate of 88 yards a minute. One patient had thromboangiitis obliterans and the remainder had arteriosclerosis; symptoms had been present for from six months to seven years. Previous to the present experiment, two had ceased smoking and two had not, five had had Burger's exercises and four intravenous injections of 5% saline solution with no definite subjective or objective evidence of improvement. None of the patients exhibited any of the characteristics of testicular insufficiency.

#### Treatment of Arthritis with Vitamin and Endocrine Preparations.

R. H. FREYBERG (*The Journal of the American Medical Association*, August 8, 1942) discusses the use of vitamins A, B, C, D, E and K, thyroid, parathyroid, pituitary, adrenal gland and oestrogenic substance in the treatment of the various types of chronic arthritis. The author considers that vitamin therapy in chronic arthritis is a part of the treatment of the patient's general health and state of nutrition and not a "specific" treatment of the rheumatic disease. There is no known antirheumatic vitamin. Neither is there known to be a hormone "specific" for arthritis, except in some cases of rheumatic disease developing with or shortly after the menopause, when oestrogenic hormones, in adequate amounts given orally or intramuscularly, are of distinct and apparently of direct benefit.

#### Diabetic Coma.

ELLIOTT P. JOSLIN *et alii* (*The Journal of the American Medical Association*, August 8, 1942) present statistics on diabetic coma from the George F. Baker Clinic, New England Deaconess Hospital, and discuss the reasons for their results. No death from coma has occurred among the 62 patients observed in the past two years. The factors concerned in death from diabetic coma are the age of the patient, the depth of acidosis, the

duration of unconsciousness and the level of the blood sugar, of the plasma carbon dioxide and of the blood non-protein nitrogen. However, patients over seventy years of age, patients profoundly unconscious, patients in extreme shock with no blood pressure reading obtainable on admission to hospital, patients with blood sugar values over 1,500 milligrammes per hundred cubic centimetres or with carbon dioxide values below five volumes per centum, and patients with non-protein nitrogen levels above 100 milligrammes per hundred cubic centimetres have all recovered with prompt and energetic treatment. The single most important consideration is the depth and duration of unconsciousness prior to institution of treatment. Treatment consists of the administration of adequate amounts of insulin—the dose for an average patient is 50 units. Particularly if the patient is unconscious and in shock, an accompanying dose of the same size may be given intravenously. In the average case a second dose of like amount is given half an hour later. The average patient requires about 200 units of insulin within the first two or three hours of treatment. Early continuous and adequate giving of isotonic solution of sodium chloride intravenously, subcutaneously or both is second in importance only to the giving of adequate amounts of insulin. The average patient will benefit by the giving of four or five litres of fluid within the first twenty-four hours of treatment. Gastric lavage is important and shortly after the patient's admission to hospital the stomach is gently drained and then washed out with warm water. Particularly if abdominal distension is present, a cleansing enema is indicated during the first few hours of treatment. The authors regard it as unnecessary and inadvisable to add dextrose to the fluid given subcutaneously and intravenously during the first few hours of treatment. They do not give dextrose until the falling blood sugar level shows that it will be utilized. It is their rule never to give alkalis in the treatment of diabetic coma. The authors insist that far better results can be secured by the prevention than by the treatment of diabetic coma.

#### Portal Cirrhosis with Ascites.

In a review of 200 cases of portal cirrhosis with ascites, R. G. Fleming and A. M. Snell (*American Journal of Digestive Diseases*, April, 1942) indicate that alcohol is still regarded as the most important aetiological agent, although its role is not clear. The onset of ascites in a patient with a history of vague abdominal pain, asthenia, loss of weight, indigestion and jaundice associated with an enlargement of the liver, usually portends early death from hepatic failure or its remote effects. In the first group of 143 cases the treatment consisted of the administration of a diet with a high carbohydrate content and of a low fat and protein intake; fluids were restricted to a maximum of 1,200 cubic centimetres in twenty-four hours. Ammonium chloride was administered orally in doses of five to twelve grammes daily and one of the mercurial diuretics was injected intravenously at intervals of two to four days. During their stay in hospital, most of these patients received intravenous injections

of glucose. Potassium iodide and mercury were given by mouth to those suffering from a syphilitic infection. Paracentesis was performed once or more often at the clinic in the treatment of eighty patients. With this régime 44 patients (31%) obtained good results as indicated by a gain in strength, diminished ascites and a prolongation of the expectancy of life; several seemed to be permanently cured. A further 40 patients (28%) obtained only temporary improvement and soon relapsed and the remaining 59 patients (41%) did not respond at all. At the end of twelve months 69% had died. Pursuing the recent contributions on liver physiology for a more hopeful line of treatment, the authors observed that oedema and ascites depend on an alteration of the hydrostatic pressure in the portal venous system. The pressure in the splenic vein in Banti's disease has been measured and found to be as high as 360 millimetres of water, the normal being 125 millimetres of water. The colloidal osmotic pressure of the blood serum in these cases has been observed to be reduced to half the normal level, such reduction being dependent on a lowered serum albumin content of the blood. Diets rich in protein and omentopexy are the two lines of treatment that follow rationally on these observed facts. The latter does not seem to have met with any success, but the adoption of a diet rich in protein seems to be beneficial. Maintenance of the normal liver structure and function of hepatic cells seems to depend on adequate intake and storage of the vitamin B complex. Accordingly the following diet was suggested and implemented in the management of cases of cirrhosis of the liver: carbohydrate 350 to 500 grammes, protein 110 grammes, fat 50 grammes. Vitamin supplements, as brewer's yeast, orange juice, liver extract, are all given in large quantities. Under these conditions 44% of the fifty patients in this group had improved remarkably; the remainder did not give any indication that the course of their disease had been altered. Among this remainder the average duration of life after the patients came to the clinic was 4.1 months, a depressing contrast with the first group, in which the average duration of life was 8.3 months. On the other hand a stage of compensation seemed to be reached more readily in the second group. The conclusion is that the treatment is based on sound physiology and the statistical data available are not unfavourable, so a persistence in this line of treatment is justified.

#### Cotton Bacterium.

P. A. NEAL, R. SCHNEITER AND B. H. CAMINITA (*The Journal of the American Medical Association*, August 1, 1942) describe an acute illness among rural mattress workers using low-grade stained cotton. Many outbreaks occurred among cotton workers from one to six hours after work was begun. Headache, malaise, anorexia, chilliness, fever up to 101° F., nausea and vomiting, for two to five days, were noted. The affected cotton was always brown and dusty. Investigation revealed that this low-grade cotton contained a Gram-negative rod-shaped bacterium in numbers between three and ten million per gramme of cotton,

both inside and outside the cotton fibres. The organism was not recovered from high-grade white cotton. No other organisms were found in significant numbers. The same type of illness was produced experimentally in human beings by inhalation of the dust contaminated with the cotton bacterium. The illness resembled mill fever, Monday fever and gin fever, and it is suggested that the cotton bacterium may be the cause of these symptoms in cotton mill workers. In this connexion attention is drawn to Frausnitz's conclusions after investigation by the Medical Research Council of Great Britain in 1936. It was then suggested that the soluble proteins of cotton penetrated the alveolar walls and that supersensitiveness was acquired, followed by chronic bronchitis and emphysema. In Great Britain compensation is payable to cotton card room operatives who have been employed for not less than twenty years in this kind of work, and in respect of those who have died or become totally and permanently incapacitated for work as the result of the respiratory disease known as byssinosis. Heckling fever of flax workers, mill fever in jute workers and grain fever in workers inhaling grain dust also resemble the fever of cotton workers. The cotton bacterium may be the cause of these allied fevers.

#### Coccidioidomycosis.

W. A. WINN AND G. H. JOHNSON (*Annals of Internal Medicine*, September, 1942) report a radiographic study of forty cases of coccidioidomycosis of a benign primary form. The condition occurs in dry dusty areas in the San Joaquin Valley in California. Inhalation of chlamydospores of *Coccidioides immitis* in dusty soil is the cause. The disease is never transmitted from person to person. The early symptoms resemble those of influenzal bronchopneumonia or a severe cold. Malaise, weakness, cough, muscle pains and gastro-intestinal symptoms occur. Moderate fever, chills and night sweats may be present. Sputum is scanty, mucopurulent and often blood streaked. *Erythema nodosum* or *multiforme* occurred in the authors' series in 2% to 5% of cases within eight to fourteen days of the onset. The diagnosis of the disease was made by isolating coccidioides from the sputum, by positive cutaneous reactions to coccidioidin, and by serological studies revealing the presence of circulating antibodies. X-ray examination revealed a small nodular area or areas of pneumonitis, usually at the bases of the lungs. These lesions may progress and be disseminated with a fatal result; on the other hand they may clear slowly, leaving nodular densities which may undergo calcification. Cavities may occur, usually single and often thin-walled and cyst-like. They may persist for years without causing any apparent ill health, except small repeated hemoptyses. Bronchiectasis and primary pleural effusion sometimes occurred. The primary condition of coccidioidomycosis rarely becomes a progressive disease. Acute disseminating primary coccidioidomycosis, however, is always fatal in from five weeks to seven months. Miliary nodules are found in lungs, liver and spleen.



## Public Health.

### PARLIAMENTARY JOINT COMMITTEE ON SOCIAL SECURITY.

THE Parliamentary Joint Committee on Social Security was appointed "to inquire into and from time to time report upon ways and means of improving social and living conditions of the people of Australia and of rectifying anomalies in existing legislation". The personnel of the committee is as follows: Mr. H. C. Barnard (Chairman), Senator Cooper (Deputy Chairman), Senator Arnold, Mr. Maurice Blackburn, Colonel R. S. Ryan and the Honourable J. A. Perkins.

DR. E. A. C. FARRAN, being sworn, read to the committee the following statement.

The medical service required by the people of Australia would be based on a general practitioner basis supported by all available specialties. The patient should have the right to be attended by a general practitioner in the first instance, either at home or at a consulting place which could be at a hospital. The general practitioner would provide all proper and necessary services, but not that which requires special skill and experience. Patients requiring such special services could and should be referred to the appropriate specialist. In this way the doctor is protected from being placed in a position where he has to carry out some procedure for which he has not the skill, and the patient is protected from being subjected to difficult procedures except by those who have some special training in the procedures.

This service could be provided for people who are prepared to pay for such service by a system of "group practice", whereby a number of practitioners could work together in a group; each member of the group would have his own specialty in addition to carrying out the duties of a general practitioner. It is conceivable that a pure specialist could make a group of one, where one specialty only is necessary.

For people who seek a free medical service, it should be provided by the Government as a salaried medical service, and all service provided under this system should be without cost to the individual patient concerned. The basis of this service would be built on the proposals of the National Health and Medical Research Council.

These two systems could be so built up as to work harmoniously together and provide a complete service similar to that at present provided for education, where we see a free education service at work and supplemented by a number of private schools to give a complete and satisfactory education service to the whole nation.

The salaried medical service should be a complete and self-contained service. It should provide training for its entire personnel without cost to the people concerned, and in fact pay a salary to its members from the day of their enlistment for training, or for any other purpose.

The salaried service should be free from all political control and influence.

#### Outline of the Established Salaried Service.

**Entrance to the Service.**—Entry to the service would be by candidates of both sexes offering themselves, between the ages of sixteen and eighteen years, to a selection committee, who will consider them from the point of view of academic qualifications, physical fitness, general bearing and other factors. The selected candidates will be considered to have entered the service and will be sent for training. Facilities will also be available for doctors and others required for the service who are already trained to enter the service at any time if they desire to do so. They will apply also to the selection committees and will enter the service in accordance with the arrangement and conditions laid down in a service manual.

**Training.**—The medical service will provide facilities for training all its personnel, whether they be doctors, clerks, masseurs of either sex, nurses, chemists, technicians, almoners, and for special training for all necessary specialties. All training will be carried out free of cost to the individual concerned and in fact a small salary should be paid during this period. In this way the doors of the service would be open to all people irrespective of their financial position and dependent only on the ability of the person to qualify for this type of work.

Training for the medical personnel should be conducted in residence in an institution attached to a medical school. In this way it would make no difference whether a person normally lived in the city or in the country. The course

of training for any branch of the service would be as laid down for the service. For the medical student it would be the usual prescribed course of five or six years, and during this time the student would be kept and paid a salary or allowance of £100 per year, increasing by £5 per year for the first three years and by £10 per year for the final years of the course. Discipline would be strict and failure to qualify in any one year would in most cases mean that the candidate would have to discontinue the course, but would still be given the option of continuing his training in some other branch.

Training for nurses, chemists, technicians, almoners, masseurs *et cetera* would be conducted along similar lines and according to a course which is to be laid down. It would be appropriate to mention here that training for nurses should include at least one year of a general academic training at a university.

**Distribution.**—After completing the qualifying period, each doctor would spend one year as a junior hospital resident, and then one year as a senior resident either in a general or special hospital. At this stage some indications of ability or desire to specialize would be visible. After the second year the medical men would be available to be sent to various positions as the need arose, as outlined in the report of the National Health and Medical Research Council.

**Salary.**—The principle that it is good policy to pay well for the use of brains should be ever foremost in determining the salary to be paid in the service. The salary should be such as to encourage the best brains to enter and remain in the service, and should yield a reward that is at least as good as, if not better, than that received by private practitioners.

The scale of salary shown in the report of the National Health and Medical Research Council whereby general practitioners receive from £700 to £1,600 and specialists from £1,100 to £2,000 would serve as a minimum basis. In addition it would be possible to add 10% for a wife and 5% for each child as a special allowance for married men in the service.

Provision for pensions should also be arranged, and the pension should be so arranged that in the event of the man dying the rights to the pension are invested in his wife for her lifetime under normal circumstances. It should also be made possible for additional pension points to be earned during the service for meritorious work; this would be a somewhat complicated matter, but is readily capable of solution. It would act as an incentive for good work during his working years, and would be the best reward for meritorious service.

#### Private Practitioners Working Under the Group System.

It is conceivable that private practitioners could work under the system of group practice in harmony and in association with the service. A group could consist of one or more men working in partnership, but in addition to carrying on general practice, each man in the group would be able to indulge in his own specialty. A group of one would be a pure specialist, as it is not conceivable that a man could work in general practice and only attend the patients who fall under his specialty where special skill and knowledge are required.

The standard set for a specialist would be the standard set by the salaried service in that locality. The medical secretary-superintendent of the local hospital would determine if the qualifications of any private practitioner were sufficient for the specialty to be practised by the practitioner. Provision would be made for the right to appeal.

Private practitioners would be able to carry on as usual today in any private hospital, but all the facilities of the hospitals of the salaried service should be open to them so long as they fulfil the requirements of the service. No bar should be placed on the patient in a service hospital being attended by a private doctor, who must agree only to indulge in that part of medical practice for which he is skilled.

#### Hospitals.

The hospitals necessary to the service as laid down in the report of the National Health and Medical Research Council should be staffed and run on a salaried basis for all personnel, who should also have pension rights.

The chief executive officer of the hospital should be the secretary-medical superintendent, who should be a medical graduate with special training in hospital administration and control. He will have full control of all branches of the hospital, and will determine the specialty to be practised by all doctors working in the hospital, whether



in the salaried service or private practitioners. He will be responsible to the hospital board of directors of which he will be president. He will act as chief consultant when called upon, and will arrange consultations whenever such seem to be desirable in the interests of the patient.

The administration of the hospital should be in the hands of a hospital board who will be responsible to the commissioners. The board should consist of the medical superintendent as president, the matron of the hospital as vice-president, one medical representative of the salaried service, one medical representative from the private practitioners, and three elected representatives from the locality which the hospital serves. The members of the board who are not members of the salaried service should be paid directors' fees of £2 2s. for each session of three hours and £1 1s. for each hour after the first three. The board should meet at least once a calendar month.

Hospital accommodation in the salaried service should be free to all people irrespective of income, but the type of accommodation demanded by different types of patient should be graded in accordance with their standard of living, possibly on an income basis and any other influencing factors. Patients could be accommodated in single rooms, two-bed rooms, four-bed wards and larger wards.

Private hospitals would also be working and would be attended by private practitioners as at present for those able and willing to pay for this service.

The service hospital would provide its own dispensary, out-patient department, dental clinic and all necessary related activities.

**Medical Records.**—The amount of clerical work to be done by the practising doctors should be reduced to a minimum, and case records on a clinical card should be all that is required. All statistics and other returns should be prepared by personnel trained in this work by the service.

#### Health Services.

Health service duties should be carried out by specially trained members of the salaried service working in close relationship with the rest of the service.

#### Financial.

To finance the scheme a special health tax of one shilling per week should be paid for all people over sixteen and sixpence per week for all children under sixteen. The capitation fee under the New Zealand scheme for medical attention only was 15s. per year, and it is more than probable that the remaining 37s. would cover a great deal of the other services provided. For the individual the maximum a married man with a family would have to pay would be one shilling for himself, one shilling for his wife and sixpence for his first child, a total of 2s. 6d. per week or £6 10s. per year and about equal to the present lodge subscriptions. The balance due for the other children could be allotted from the child endowment from which he receives 5s. per week merely for having the children. If he now got 4s. 6d. per week he would scarcely notice the difference. He would have no hospital benefit scheme to meet.

A government grant probably not in excess of that made at present to hospital and charitable efforts would be required to make up any deficiencies, but whatever the cost, it would not be excessive to provide against the greatest of peace-time enemies, ill health, and all that it means in expense to bread-winners at the present time.

#### To Introduce the Salaried Medical Service at the Present Time.

The whole scheme would have to be worked out in detail and closely following the report of the National Health and Medical Research Council it will be found that the actual staffing of the service has to a great extent been covered.

Full details of salaries, compensation and conditions of service for medical men would also have to be drawn up and published in a booklet, which could be called the service manual.

Every doctor, whether in the forces or in civilian work at present, should be sent a copy of this together with a questionnaire to be completed by a certain date, and penalties for failure to do so. The questionnaire should seek full details of the doctor's qualifications, his practice, obligations, and finally he should be asked to signify as to his willingness to enter the service if called upon to do so, or whether he wishes to remain in private practice as a member of a group.

**Compensation.**—Compensation should be offered to doctors who freely offer their services to the medical service. This compensation should cover the loss for goodwill which in most cases has been paid for in the past. It should represent the difference between the average gross takings of the practice and the salary to be obtained in the service. At least it should be free from taxation and should cover all unpaid taxation on fees already earned and paid to the doctor. When the doctor starts in the salaried service his tax money will be taken as his salary is paid, and it is scarcely reasonable to expect that any due and reasonable arrears in taxation for fees received should also be met out of this sole source of income. In addition, the service should be prepared to take over any usable equipment at a fair valuation.

Doctors at present serving in the forces should be offered the same compensation, and in addition their seniority in the service should be made to date from the date of their enlistment in the forces. In this way a repatriated doctor would start in the service on a higher salary and in a more senior position than a corresponding civilian doctor who has been able to continue in practice during the war years.

**Implementation of the Service at the Present Time.**—An area where medical services are at present inadequate should be taken over and staffed by the salaried medical service according to the set plan for that area. Although it would not be possible to supply the final full service during the war, a skeleton service can be provided and deficiencies in the senior ranks can be made up by part-time doctors who would be prepared to join the service later. Where the service starts to function, the people served by an area should be subjected to the special tax for the service. Thus gradually area after area would be built up always in accordance with the final plan and with a skeleton staff to be brought to full strength as the war terminates.

While this is going on the whole question of medical manpower, whether in the services or not, should be subject to a strict review. In the services we see three complete and self-contained medical services functioning, one for the army, one for the navy and one for the air force, where in reality one complete service is all that is required. In addition we see practising doctors occupying administrative posts which could be easily filled by business men in a position to seek a medical opinion easily on any question. These doctors could be freed to do the work for which they were trained. There is in general a great wastage of medical manpower in the services as at present organized. In civilian life also there is often a poor distribution of doctors, and this could only be readily overcome by mobilizing the profession under such a scheme as suggested.

Provision should also be made at an early date to enlist students for training as medical men under this scheme, so that a pool of junior men and women would soon be available as the service becomes established.

#### Criticisms of the Four Proposals.

##### National Health and Medical Research Council Scheme.—

(i) It provides a readily accessible and continuous service to the public. (ii) It facilitates free consultations between medical men in the interests of the patient. (iii) It ensures that a doctor will only carry out the class of work for which he is trained, but it gives him opportunities for advancement. (iv) It gives security to the doctor in the event of sickness, and ensures reasonable working hours and conditions. (v) It ensures complete mobility of medical manpower in time of need. In the event of a local or national emergency the medical manpower can be readjusted with a minimum of disturbance. (vi) It ensures a minimum of clerical work for medical men employed in a government service that is free to the public. (vii) It fails to ensure a free choice of doctor, but if the service is good, this should not be detrimental. (viii) If worked in association with private group practices it should cater for all classes and conditions of people.

**Proposals of the British Medical Association.**—In general these proposals are incomplete and do not offer a solution to the problem they propound. All the conditions laid down can be included in the salaried service except the free choice of doctor. The subject of free choice of doctor is a most debatable one, and yet is used as the main argument in these proposals. Looking behind this wordy outpouring one can see that it is designed to protect the goodwill of the general practice and to encourage the established specialist. It would probably be based on a capitation fee and would therefore have the following disadvantages: (i) It places the doctor on a twenty-four hour day, and seven days a week working basis, it makes no allowance for sickness,

holidays or leisure for the doctor. (ii) It would make consultations rather burdensome for the general practitioner on account of the method suggested. (iii) It makes no provision for epidemics or other emergencies arising in the practice. (iv) It offers no prospect of advancement for the general practitioner. (v) If the capitation fee were cut to the minimum expected under such a system, the doctor would have to obtain the maximum number of patients to make a living and would have but little time to devote to each individual patient. (vi) In order to obtain the extra benefits which would not be covered by a general practitioner service, the doctor would be tempted to do work for which he may not have the skill and experience. (vii) Much clerical work would be required by the doctor to complete all the forms that would be incidental to such a service. Advantages—present methods of practice would be disturbed to a minimum extent.

**Medical, Hospital and Related Benefits in New Zealand.**—This depends on a capitation fee, which has already been considered, and also on a fee-for-service system. The fee-for-service system would lead to a minimum disturbance of the present methods of practice. To those who see nothing but good in the present methods it is the ideal service. It has the following disadvantages. (i) It makes no actual provision for sickness, holidays *et cetera* for the doctor. (ii) It must of itself lead to a maximum of clerical work in order to supply all the information related to the service to collect the fee. (iii) It fails to encourage that degree of specialization that is now so necessary in medical practice.

**National Health Insurance Scheme.**—This has all the disadvantages of the capitation fee, and the fee in question was placed far too low to make the scheme attractive to the medical profession. It combines health benefits and financial benefits in the same scheme, and it were better if these were organized by separate compartments.

#### Tuberculosis.

In any health scheme the question of certifying and segregating people who are subject to open tuberculosis with germs in the sputum should be very seriously considered. In my opinion they should be isolated as strictly as the insane. Should any form of preventive inoculation be discovered, as has been accomplished for diphtheria and tetanus, it should be made compulsory for the whole community to be inoculated against tuberculosis.

Senator Arnold said that it had been suggested that if a salaried service was introduced and the present system was allowed to remain as well, the salaried system might become known as "the poor doctor", and a stigma might be attached to the patients and to the service. He asked for Dr. Farran's opinion. Dr. Farran said that there was no likelihood of such a stigma. The status of the salaried service would depend entirely on the quality of the service provided. He thought that a medical service of that type had come to stay, and the danger existed only until the service had proved itself. He believed that if the service was introduced in an area where other men were practising, the doctors would welcome it if their number was inadequate, and some of them might even enter it. In reply to a further question by Senator Arnold, Dr. Farran said that people living on the perimeter of a district fared very badly; he himself never had time to visit them, but gave them advice by telephone. However, the ambulance service was very good. Dr. Farran thought that in any medical service introduced, visiting should be retained, but not encouraged; more and more treatment was being carried out in hospital, and the arrangement was better and also time-saving. Visiting was largely dying out, but in many cases it was wrong that it should be so. In a national medical service it would be possible to provide for visiting by having one doctor with a motor car and a wireless receiving apparatus, who could be told where to go. Senator Arnold then referred to Dr. Farran's suggestion that the service should pay students in training and so give everybody a chance to undertake a medical course; he asked whether the service would have any claim on the students when their training had been completed. Dr. Farran said that that should be so; the system could be worked like the system of training teachers in New South Wales. In that case, if the people so trained wished to leave the service before the lapse of a specified number of years, they would have to buy themselves out by payments on a graduated scale. Dr. Farran emphasised his belief that it should be possible to get out of the service as well as to get into it. On the subject of

payment of compensation to doctors whose practices were taken over, Dr. Farran said that compensation should be paid to doctors who freely offered their services. The compensation should cover the loss of goodwill, which in many cases had been paid for in the past. The question of compensation would be an important consideration; medical men were afraid that if a national salaried system was introduced they would lose the goodwill they had paid for, and that consideration was holding them back. That was why the British Medical Association proposals were of the type that they were. Senator Arnold asked whether the inducement of superannuation would carry weight, especially with the older doctors. Dr. Farran replied that most doctors paid very heavy insurance rates; the insurance they held could be made of use in the working out of the superannuation. On the subject of opportunities for post-graduate study, Dr. Farran said that he fared badly; he had to do it in his annual holidays, and he thought that that state of affairs prevailed very largely throughout the country. Referring to the question of free choice of doctor, Dr. Farran said that at the present freedom of choice was necessary to allow patients to avoid a "dud", somebody with whom they had had a quarrel, or somebody who had not given satisfaction. Apart from those considerations, there was no need for it. If a salaried service was introduced, together with group practice controlling private practitioners, it would be possible to provide for all types of people. The standard of speciality would be laid down for each locality according to the conditions prevailing there. Group practice would make it possible to send patients who needed further attention to large or small centres.

In reply to questions by Colonel Ryan, Dr. Farran said that group practice existed at the present time in some small centres. The way to encourage group practice was to put several doctors together. Doctors could be forced into group practice by the efficiency of the salaried service hospital; patients would like to go there. Dr. Farran considered that in an ordinary country district, when a patient went into hospital his doctor tended to lose interest in him; under a salaried scheme the general practitioner would go round to see his patients, but would have his headquarters outside the hospital. He would remain in close contact with his patients. As a rough surmise, Dr. Farran thought that about 80% of the population would avail themselves of the salaried medical service; if the service gave really good results, there would be less and less scope for private practitioners. In reply to a further question by Colonel Ryan, Dr. Farran said that the releasing of doctors who were doing only administrative work in the forces would make available quite a number of medical men. Dr. Farran believed that the immediate introduction of such a service would go a long way to make up for the present deficiencies of civil practice.

In answer to Mr. Perkins, who asked about the position of nurses, Dr. Farran said that they were badly treated; they finished their training, and their future prospects were then uncertain. The bringing in of shorter hours had made things worse—it had made them more conscious of their hours and less so of their duties. Referring to the payment of doctors if a salaried medical service was brought in, Dr. Farran said that an allowance should be made for married men. The attitude of the medical fraternity to a salaried system was that they were afraid of it.

Colonel Ryan asked Dr. Farran what he thought the attitude of the general public would be to such a scheme. Dr. Farran replied that the public would be suspicious of it at the beginning, but if the service was a good one they would accept it; he thought that the public was dissatisfied with the present system. With regard to the organization of hospitals, Dr. Farran said that the idea was to have main base hospitals and make free use of transport. People did not like being taken away from their own locality for minor ailments, and small hospitals containing six or eight beds would be useful.

In reply to questions by Senator Cooper concerning the method of control of the service, Dr. Farran said that in his opinion three commissioners should be appointed to run it, and given the money and power to provide the service. If they proved unsatisfactory, they should be changed. Dr. Farran thought that two of the commissioners should be medical men and one a lay person, and that the commissioners should be the highest paid people in the service. The State health officers *et cetera* should be included in the salaried service. The whole of the area in which the system was to be introduced would be zoned first, and there would be a small amount of overlapping at the border. Promotion within the service would be on the recommendation of the



hospital board made on a report from the superintendent. Medical officers who were dissatisfied on questions of promotion would have the right of appeal through the commissioners. Dr. Farran admitted that a certain number of medical men might grow dull and lose ambition under such a system; but he said that there was no chance for the ambitious at the present time. He thought that under a salaried system young men would have a much better chance than at the present time, when advancement depended on ability, finance *et cetera*. If a trainee in the service was unsatisfactory after he had qualified, there would have to be provision to get rid of him; there would have to be provision for penalties for misdemeanours. A salaried system such as was envisaged would not go too far in the direction of regimentation, because the grouping of private practitioners remained to offset that danger. Dr. Farran thought that a certain amount of bureaucratic control was necessary. In answer to a further question, Dr. Farran said that provision for country centres would be made by the sending there of men who had been junior general practitioners for three or four years; a man would automatically become a junior general practitioner after having done two years' post-graduate work. Senator Cooper pointed out that under the National Health and Medical Research Council scheme, Albury, a "D" class centre, would be given twelve specialists, three junior practitioners and one senior practitioner, and he asked whether there would be enough work for them. Dr. Farran replied that there would not at the present time, but if it was found that a centre was over-staffed the staff could be reduced. Dr. Farran believed that country centres would receive much better service under a salaried system. He agreed that a preliminary step to the bringing in of a salaried service would be a survey of the medical resources of the Commonwealth—hospitals, medical practitioners *et cetera*; it would be essential to know what was there to be utilized, and such a survey could be easily made. Asked what should be done about private hospitals, Dr. Farran said that they should be allowed to drift along; the present tendency was for them to close. If the owners were willing, large private and intermediate hospitals could be taken over by the salaried service. Referring to denominational hospitals, Dr. Farran said that they might be given some form of grant, or they might prefer to remain independent; but he thought it would be difficult to staff denominational private hospitals under a salaried scheme. Dr. Farran considered that it would be possible to introduce the system of payment of honorary medical officers that was in use in Queensland; they could be given a part-time salary. On the question of hostels for women awaiting confinement away from their homes, Dr. Farran agreed with Dr. Lethbridge's statement that they should be provided; but he considered that such hostels should be in the form of annexes to the hospitals. They need not be large, but they were essential. At present such women had to pay for their board.

In reply to questions by the Chairman, Dr. Farran said that the type of medical men he would consider suitable to become medical members of the commission to control a salaried service were men like the head of the medical service in the army. Experience would be advisable, but organizing ability was the most important qualification. Dr. Farran then referred to preventive medicine. He said that more attention ought to be paid to it than had been paid in the past, and that could be taken into consideration when the salaried service was being organized. With regard to post-graduate study, Dr. Farran said that it was possible to obtain higher degrees in Australia, but that men got more benefit from going abroad to study. The Fellowship of the Royal College of Surgeons was the best recognized higher qualification, and in peace time it was possible to take the first part of the examination in Australia. Dr. Farran thought that the salaried service should pay for the post-graduate study of its medical officers, and that it could compensate itself by adding a certain amount to the officers' price for buying themselves out of the service. Dr. Farran regarded post-graduate study as a very important part of a doctor's life. Asked his opinion of the Tasmanian system of medical service, Dr. Farran said that the doctors serving in it were satisfied. The Chairman pointed out that Dr. Farran had visualized three men as a commission to run the service and that the next step down was the superintendent of a hospital; he asked who was to select men to be teachers in the medical schools. Dr. Farran replied that that would be the task of the commission. Asked whether the commission would not be overburdened by the necessity of making so many promotions, Dr. Farran said that the commission was not hampered in any way and could delegate powers *et cetera*.

## National Emergency Measures.

### DOCTORS' COATS AND SURGEONS' TROUSERS.

THE following two letters are published at the request of the Assistant General Secretary of the Federal Council of the British Medical Association in Australia.

[COPY.]

COMMONWEALTH OF AUSTRALIA.

Rationing Commission,  
Mitchell House,  
C/r Elizabeth and Lonsdale Streets,  
Melbourne, C.I.,  
30th December, 1942.

Dr. Hunter,  
Assistant Secretary,  
British Medical Association,  
Macquarie Street,  
Sydney.

Dear Dr. Hunter,

*Re Doctors' Coats and Surgeons' Trousers.*

It has now been decided that a certificate from the B.M.A. is no longer necessary before a doctor obtains a permit for the purchase of doctors' coats and surgeons' trousers. The doctor should apply direct to the Deputy Director of Rationing.

You will receive official notification of this change from the Deputy Director of Rationing.

Yours faithfully,

H. C. COOMBS,  
Director of Rationing.

[COPY.]

COMMONWEALTH OF AUSTRALIA.

Deputy Director,  
Rationing Commission,  
Dymocks Building,  
424 George Street,  
Sydney,  
16th January, 1943.

The Secretary,  
British Medical Association,  
135-137 Macquarie Street,  
Sydney.

Dear Sir,

Following a telephone conversation with you, I wish to confirm advice given you that arrangements have now been made for the Deputy Director of Rationing in each State to issue a permit for the purchase of Doctors' coats and/or Surgeons' trousers to the maximum value of twenty-four (24) coupons.

The Doctor should make application to the Deputy Director, who will satisfy himself that such applicant is registered with the State Medical Board, and is, therefore, a qualified Medical Practitioner.

I trust this arrangement will now enable members of your Association to obtain the extra allowance with a minimum amount of trouble.

Yours faithfully,

W. B. HUDSON,  
Deputy Director.

## Correspondence.

### WARTS AND BRILLIANT GREEN.

SIR: In the issue of THE MEDICAL JOURNAL OF AUSTRALIA, dated August 15, 1942, Dr. Reye published a letter on the subjects of warts and their treatment by a 2% solution of brilliant green in *Spiritus Vini Rectificatus*. When the solution had been applied the area was covered with adhesive plaster. Dr. Reye stated that not only in his own practice, but in the clinic of the Queensland Cancer Trust, "excellent results had been obtained".

I am writing to ask whether Dr. Reye and the Queensland Cancer Trust continue to get the excellent results previously claimed for this method. My reason for making this inquiry is that, having tried the method in six cases of plantar



warts, I have been unable to get any favourable result at all. The last patient so treated and who reported back presents a rather disastrous result. The girl came in with one plantar wart on August 26. The brilliant green treatment (2% in *Spiritus Vini Rectificatus*) was prescribed as directed in Dr. Reye's letter. The patient was instructed to report in a month. She did not do so, having returned by that time to her home in the country. She did, however, report in January, 1943, having continued the treatment ever since, but by this time she was treating eleven warts, the extra ten having germinated and developed in a soil impregnated with 2% brilliant green and protected by adhesive strapping.

It looks as if there must be a local influence or some factor other than brilliant green which is what Dr. Reye calls the "specific one" in the production of the results which he claimed.

Yours, etc.,

Beanbah,  
235, Macquarie Street,  
Sydney.  
January 18, 1943.

E. H. MOLESWORTH.

#### A BOTTLE IN THE RECTUM.

SIR: The following recent case may be of some interest. Mr. X., aged sixty-two years, single, was admitted to the Spencer Hospital, Wynyard, at 4.30 a.m. on January 8, 1943. On the evening of January 6, 1943, he made use of the neck end of an olive oil bottle to insert through his anus to excite defaecation. It got in too far and became lost. Next evening he consulted a practitioner fifty miles away, who found it impossible to extract without an anæsthetic. He was then sent into hospital where under ether anæsthesia the neck could be felt near the umbilicus and in a lithotomy position the bottom end was felt a little up the rectum pressing on the coccyx. A little difficulty was experienced in extracting. A Sims speculum was inserted and the bottom of the bottle was worked forward with a finger until it could be held by a pair of fenestrated rubber-filled peritoneal forceps. These then gradually delivered the bottle, which was by then full of liquid faeces.

The measurements of the bottle were: length, eight and three-quarter inches; diameter, one and four-fifth inches. It held six ounces.

Next day he was discharged, feeling well.

Yours, etc.,

G. J. WALKER.

Wynyard,  
Tasmania,  
January 12, 1943.

#### BRITISH MEDICAL ASSOCIATION (QUEENSLAND BRANCH) SCHEME FOR ASSISTANCE TO MEMBERS ON ACTIVE SERVICE.

SIR: By the agreement signed by the members of the above, the scheme terminated at the end of the third year. At a meeting of the signatories held in November last it was decided that no attempt would be made to continue, but all support possible would be given to a State-wide scheme proposed by the Branch council.

Under these circumstances the trustees feel it a duty to place on record:

1. Their appreciation of the assistance they received from members.
2. That from personal correspondence from and interviews with members, the scheme has been a very great help to many.
3. Their appreciation and thanks to the Queensland Trustees Limited for their assistance, and particularly to M. S. Herring, Esq., and Miss Court.

They feel that the only place where such thanks can be satisfactorily recorded is in THE MEDICAL JOURNAL OF AUSTRALIA.

Yours, etc.,

ALEX. H. MARKS,

Chairman of Trustees.

British Medical Association House,  
Wickham Terrace,  
Brisbane.  
January 21, 1943.

#### A SALARIED MEDICAL SERVICE.

SIR: At the recent debate in Perth regarding a salaried medical service, there seemed to be a fairly widespread conviction that some government interference with medical practice is imminent. Many doctors were reluctant to come to any decision so long as many of our colleagues are away on active service in the Army. It would appear that authority will not be backward to take advantage of this predicament by trying to force a conclusion while we are divided.

If for purposes of argument we accept the statement that a change is inevitable, there appear to be only two possible proposals which will be considered: (i) national health insurance or (ii) salaried national health service.

Long before the war came, all the doctors now away in the Army were present when as a whole we rejected the former proposal. It is reasonable to suppose then that the Government will try to introduce some form of the second scheme.

Could not some concerted effort be made to elicit the views of doctors on Army service, as to what they feel essential to such a scheme, so that those of us left here to fight their battle for them may be able to present a united front and represent them satisfactorily?

My own advocacy of making ourselves into a well-organized force, devoted to the objects of the abolition of preventive human suffering by the exploitation to the full of preventive medical knowledge, and the building of racial health by the same means, is well known and has been argued in full for your readers; but I should like to point out that if we are forced to the issue, the formation of a national service for Australia would provide one of the best possible safeguards for the profitable post-war reemployment of medical men now in the Army that could be devised.

In addition, if we are properly united, we could secure for every doctor a proper provision of facilities for post-graduate study, regular periods of rest, and pensions on retirement; while for the public as a whole we ought to demand complete team service for health and treatment.

Yours, etc.,

STANLEY BOYD.

Gnowangerup,  
Western Australia,  
January 27, 1943.

#### THE FUTURE OF MEDICAL PRACTICE.

SIR: May I congratulate Dr. A. C. Thomas on his letter in today's journal. It is essential for us to be less dogmatic and more willing to see and seriously consider the viewpoints put forward by others. Such an outlook would be of great value to the work of the committee which should be formed to deal more constructively with this subject.

Your leader was excellent. I am sure that there are seeds of goodness awaiting cultivation in all people. Truthful education will help to bring this out in most; but on the other hand there is much truth in the saying: "Spare the rod and spoil the child."

My own letter of December 18, 1942, savours of defeatism and a too hasty desire to achieve the ideal.

Yours, etc.,

C. S. BULL.

491, New South Head Road,  
Double Bay,  
January 30, 1943.

#### AN EXPLANATION.

SIR: In the text of my evidence before the Parliamentary Committee I am quoted as having said in reply to Senator Arnold: "Another difficulty in the question of free choice of doctor was that the patient was not always in the best position to exercise free choice; a patient with a surgical condition might wish it to be dealt with by a physician or a general practitioner."

This implies that in my opinion general practitioners as a class are not competent to deal with surgical conditions. Such a statement is at variance with my firm opinion, and indeed the whole tenor of my evidence was that in a system embracing group practice a general practitioner interested in a specialty would be able to further his skill in that particular field so that there would be fewer conditions which would need to be passed on to the pure specialist.

May I quote from the *verbatim* report of my evidence: "Another great difficulty is that the patient is not always in the best position to exercise freedom of choice. I am a general practitioner who is interested in medicine. I do not do any surgery. Yet my patients will come to me with a surgical condition and be perfectly prepared to allow me to do any major surgery."

Yours, etc.,

ROBERT F. BACK.

42, West Street,  
Petersham,  
January 31, 1943.

#### "THE STAINING OF THE THICK DROP OF BLOOD."

Sir: Those interested in the above may be interested in Professor Schilling's technique, published in the sixth edition (1926) of his work, "The Blood Picture and its Clinical Significance".

Professor Schilling, famous for his "Hemogram" and his "Neutrophil Shift", was amongst the first to advocate the staining of the thick drop.

His technique is as follows:

Place a drop of blood on a slide. Spread it with a needle, in a circular manner, till the smear is about the size of a halfpenny. Very careful drying is essential, either in the incubator (at 37° C.) or exposed to the sun for half an hour.

Stain with Giemsa (one drop to one cubic centimetre of distilled water). Add stain drop by drop to the water while baking. Cover film with stain; leave three minutes. Then place the slide slightly slanting and add, from the high end, more of the stain until all the previous stain has been washed off. This removes the hemoglobin. Then place slide horizontal, add further stain, and leave about 25 minutes.

With the slide still horizontal wash carefully with distilled water. Then let slide dry while standing vertically.

Yours, etc.,

ALFRED E. FINCKH.

227, Macquarie Street,  
Sydney,  
February 1, 1943.

## Naval, Military and Air Force.

### APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Number 21, of January 28, 1943.

#### ROYAL AUSTRALIAN AIR FORCE.

##### Permanent Air Force: Medical Branch.

The following Temporary Squadron Leaders are promoted to the temporary rank of Wing Commander, with effect from 1st October, 1942: W. L. B. Stephens (1175), C. J. N. Leleu, O.B.E. (1176), E. H. Anderson (1177), E. C. Heffernan (1186).

Temporary Wing Commander W. D. L. Farrar (1169) is promoted to the temporary rank of Group Captain with effect from 1st December, 1942.

##### Citizen Air Force: Medical Branch.

The following are appointed to commissions on probation with ranks and for duty as shown with effect from the dates indicated: (Part-time) Flight Lieutenant (Temporary Squadron Leader) John Alexander McGeorge, M.B., Ch.M., D.P.M. (7271), 23rd November, 1942; (full-time) Flight Lieutenants Guy Gavin Henn, M.R.C.S., L.R.C.P. (4573), 8th March, 1942.

Previous notification referring to Flight Lieutenant G. G. Henn in *Commonwealth of Australia Gazette*, No. 115, dated 16th April, 1942, is cancelled.

The probationary appointment of Flight Lieutenant (Temporary Wing Commander) A. H. Baldwin (4907) is confirmed.

The probationary appointments of the following Flight Lieutenants are confirmed: G. V. Stanton (5166), D. J. Lampard (2874), J. R. F. England (3727), L. C. Rowan (3729), H. Hoban (4852), F. J. Kenny (4851), J. R. V. Foxton (5254), R. H. Oxby-Donald (5253), G. J. Ramsay (5308), J. H. Isles (3437), H. H. Jackson (1379), N. Morrissey (4850), E. A. Eddy (5903), C. H. Noack (5904).

The following Temporary Squadron Leaders are promoted to the temporary rank of Wing Commander with effect from 1st October, 1942: S. F. Reid (1174), I. G. McLean (1178), J. G. Brown (1457), A. B. Anderson (1187), R. I. Greenham (1188), R. R. MacDonald (1192), S. G. Preston (1194), D. S. Thompson (1195), J. C. Laver (1199), J. C. Fulton, O.B.E. (1219), P. R. Delamothe (1235), H. D. Phipps (1243).

The following Temporary Flight Lieutenants are promoted to the temporary rank of Squadron Leader with effect from 1st October, 1942: W. A. Seldon (1220), R. Greenlees (1231), J. G. Radford (1234), K. E. Rex (1245), G. S. Colvin (1246), E. W. Field (1247), R. G. Plummer (1253), H. A. Sundstrup (1256), A. S. DeB. Cocks (1255), M. H. B. Robinson (1257), B. J. Mulvany (1258), H. A. F. Rofo (1259), J. A. Bond (1488), R. V. Pridmore (1260), W. F. H. Crick (1502), R. W. Hazelton (1261), D. L. Peate (1262), G. G. Burniston (1263), A. J. Campbell (1492), D. C. Howie (1264), G. W. Davies (1505), C. A. McHardy (1539), H. C. Stone (1560), D. B. Skewes (1281), D. T. Shortridge (1472), R. M. Alder (1285), W. Deane-Butcher (1286), B. J. Basil-Jones (1289), H. J. Prior (1290), C. A. Dent (1602), C. A. Frew (1604), F. V. Munro (1278), L. T. Conlon (1679), W. T. Coyle (1680), A. T. Pearson (1701), S. M. L. Dunstone (1654), D. C. Trainor (1653), G. J. Baldwin (1657), S. D. Dobell-Brown (1658), A. G. McManis (1661), V. R. Meek (1662), R. G. Tonkin (1659), F. R. Wicks (1655), H. A. A. Altmann (1766), W. P. McLaughlin (1770), D. Barry (1772), A. W. Bayley (1886), K. S. Harrison (1888), O. W. Letch (1889), J. K. Gabriel (2085), J. T. Gunther (2756), G. C. V. Thompson (2836), E. F. Langley (2868), M. H. M. Ryan (2894).

The following Flying Officers are promoted to the temporary rank of Flight Lieutenant, with effect from 1st October, 1942: A. A. Roper (1864), C. W. Fitton (2282).

Temporary Wing Commander P. J. Benjamin (1170) is promoted to the temporary rank of Group Captain with effect from 1st December, 1942.—(Ex. Min. No. 27—Approved 27th January, 1943.)

Flight Lieutenant K. C. Sutherland (6801) is transferred from the Reserve with effect from 4th January, 1943.

Flight Lieutenant K. Johns (5175) is transferred from the Reserve with effect from 12th October, 1942.

#### Reserve: Medical Branch.

The following are appointed to commissions on probation with the rank of Flight Lieutenant with effect from the dates indicated: John Bryant Curtis, M.B., B.S. (7233), Evan Rees Whitaker Thomson, M.B., B.S. (7232), 30th November, 1942; Henley Henderson Harrison, M.B., Ch.M., F.R.C.S. (Ed.), M.S., F.R.A.C.S. (7270), 10th December, 1942.—(Ex. Min. No. 19—Approved 27th January, 1943.)

The following are appointed to commissions on probation with the rank of Flight Lieutenant, with effect from the dates indicated: Peter George Driver Prentice, M.B., B.S. (7336), 12th December, 1942; Donald David Letham, M.B., B.S. (7337), 17th December, 1942.—(Ex. Min. No. 31—Approved 27th January, 1943.)

The following are appointed to commissions on probation with the rank of Flight Lieutenant with effect from the dates indicated: Charles Roe, M.B., B.S. (7273), 30th November, 1942; John William Philip Henderson, M.B., B.S. (7272), 12th December, 1943; William James Griffiths, M.B., B.S. (7276), 17th December, 1942.—(Ex. Min. No. 35—Approved 27th January, 1943.)

Victor Gordon Walker, M.B., B.S. (6955), is appointed to a commission on probation with the rank of Flight Lieutenant with effect from 15th October, 1942.—(Ex. Min. No. 36—Approved 27th January, 1943.)

## Obituary.

### ROBERT BROMLEY TAYLOR.

We are indebted to Dr. Charles Swan for the following appreciation of the late Dr. Robert Bromley Taylor.

Robert Bromley Taylor, who was born on August 26, 1918, was the third son of the late Mr. and Mrs. A. R. Taylor, of Northgate Street, Unley Park, South Australia. He was educated at Scotch College, Mitcham, and at the University of Adelaide. At Scotch College, where he was a pupil from 1927 to 1935, he had a fine scholastic record and was a school prefect in 1935 and a member of the first tennis team during 1934-1935. He entered upon his medical course in 1936. Concrete evidence of his brilliance was given when he graduated M.B., B.S., with fourth credit at the early age

of twenty-two years. After some months as resident medical officer at the Royal Adelaide Hospital he offered for service with the Australian Army Medical Corps. Medical examination, however, revealed the seeds of the disease which eventually led to his death, and he was rejected. For some time he made steady progress against his malady, but eventually his resistance broke down, and he died on January 25, 1943, at the age of twenty-four years. His illness brought out the best in him. He met it with unending patience and great fortitude and was never known to complain. Of the depth and fineness of his character and of his great personal charm I need not write; they are known and will be treasured in the memory of those who were privileged to be his friends. Of him it can be truly said, "that he never failed in honour, or in kindness, or in good sense or in humour". His many friends mourn his passing very deeply.

## Australian Medical Board Proceedings.

### QUEENSLAND.

The undermentioned has been registered, pursuant to the provisions of *The Medical Acts, 1939-1940*, of Queensland, as specialist in medicine:

Walters, Lynn David, General Hospital, Brisbane (M.R.A.C.P., 1941).

The undermentioned has been registered, pursuant to the provisions of *The Medical Acts, 1939-1940*, of Queensland, as a duly qualified medical practitioner:

Salkeld, Ormond William, M.B., B.S., 1942 (Univ. Sydney), General Hospital, Brisbane.

## Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Michael, Norman Joseph, M.B., B.S., 1942 (Univ. Sydney), Saint Vincent's Hospital, Darlinghurst.

Palmer, Alexander Allan, M.B., B.S., 1941 (Univ. Sydney), "Cottesloe", Main Road, Bulli.

## Medical Appointments.

Dr. Bruce Arran Sinclair has been appointed Acting Government Medical Officer at Cairns, Queensland.

Dr. William Lister Sloss, pursuant to the provisions of the *Hospitals and Charities Act, 1928*, of Victoria, as amended by the *Hospitals and Charities Act, 1939*, of Victoria, has been appointed a member of the Charities Board of Victoria.

Dr. Harold Alexander McCoy has been appointed Temporary Honorary Radiologist at the Royal Adelaide Hospital, South Australia.

Dr. G. T. H. Harris has been appointed, pursuant to the provisions of the *Northern Ambulance Act, 1942*, of Tasmania, as a member of the Northern Ambulance Board.

Dr. Lindon Archdall Langley has been appointed, pursuant to the provisions of the *Lunacy Acts*, of Victoria, to be Superintendent (acting) of the Mental Hospital, Ararat, Victoria.

The undermentioned have been appointed Honorary Clinical Assistants (Medical Section) at the Royal Adelaide Hospital, Adelaide, South Australia: Dr. Reginald Nevill Cudmore Bickford, Dr. Patricia Lesley Bidstrup, Dr. Josiah Mark Bonnin, Dr. Ernst Flaum, Dr. Alan Henry Finger, Dr. Oswald Bertram Lower, Dr. Ivan Sandlands Magarey, Dr. Malcolm William Miller, Dr. Donald Keith McKenzie, Dr. John Meavious Pedler, Dr. Geoffrey Ernest Peters, Dr. Christopher Bagot Sangster, Dr. Ronald Keith Stockbridge, Dr. Frederick Gordon Trevor Turner, Dr. Robert Frank West.

Dr. Thomas Davis Kelly has been appointed Honorary Clinical Assistant (Neuro-Surgical Clinic) at the Royal Adelaide Hospital, Adelaide, South Australia.

## Books Received.

"Biochemistry and Morphogenesis", by Joseph Needham, F.R.S.; 1942. Cambridge: The University Press. 10" x 7", pp. 802, with 328 illustrations. Price: 52s. 6d. net.

"Control of the Common Fevers", by twenty-one contributors, arranged by R. Cruickshank; 1942. London: The Lancet Limited. Demy 8vo, pp. 367, with illustrations. Price: 12s. 6d. net.

## Diary for the Month.

- FEB. 13.—Tasmanian Branch, B.M.A.: Annual Meeting.  
 FEB. 16.—New South Wales Branch, B.M.A.: Ethics Committee.  
 FEB. 23.—New South Wales Branch, B.M.A.: Medical Politics Committee.  
 FEB. 25.—South Australian Branch, B.M.A.: Branch.  
 FEB. 26.—Queensland Branch, B.M.A.: Council.  
 MAR. 2.—New South Wales Branch, B.M.A.: Organization and Science Committee.  
 MAR. 3.—Western Australian Branch, B.M.A.: Council.  
 MAR. 4.—New South Wales Branch, B.M.A.: Special Groups Committee.  
 MAR. 4.—South Australian Branch, B.M.A.: Council.  
 MAR. 5.—Queensland Branch, B.M.A.: Branch.  
 MAR. 9.—New South Wales Branch, B.M.A.: Executive and Finance Committee. Ethics Committee.  
 MAR. 9.—Tasmanian Branch, B.M.A.: Branch.  
 MAR. 12.—Queensland Branch, B.M.A.: Council.

## Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

**New South Wales Branch** (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phoenix Mutual Provident Society.

**Victorian Branch** (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

**Queensland Branch** (Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

**South Australian Branch** (Honorary Secretary, 178, North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

**Western Australian Branch** (Honorary Secretary, 205, Saint George's Terrace, Perth): Wiluna Hospital; all Contract Practice appointments in Western Australia.

## Editorial Notices.

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